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Edited by HENRY C. PEARSON - Offices, No. 395 Broadway, NEW YORK.

Vol. XXXVIII. No. 3.

JUNE 1, 1908.

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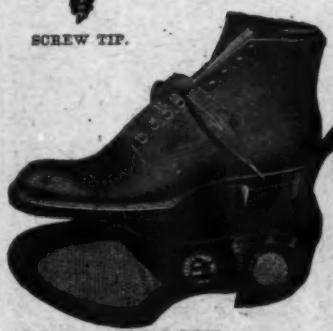
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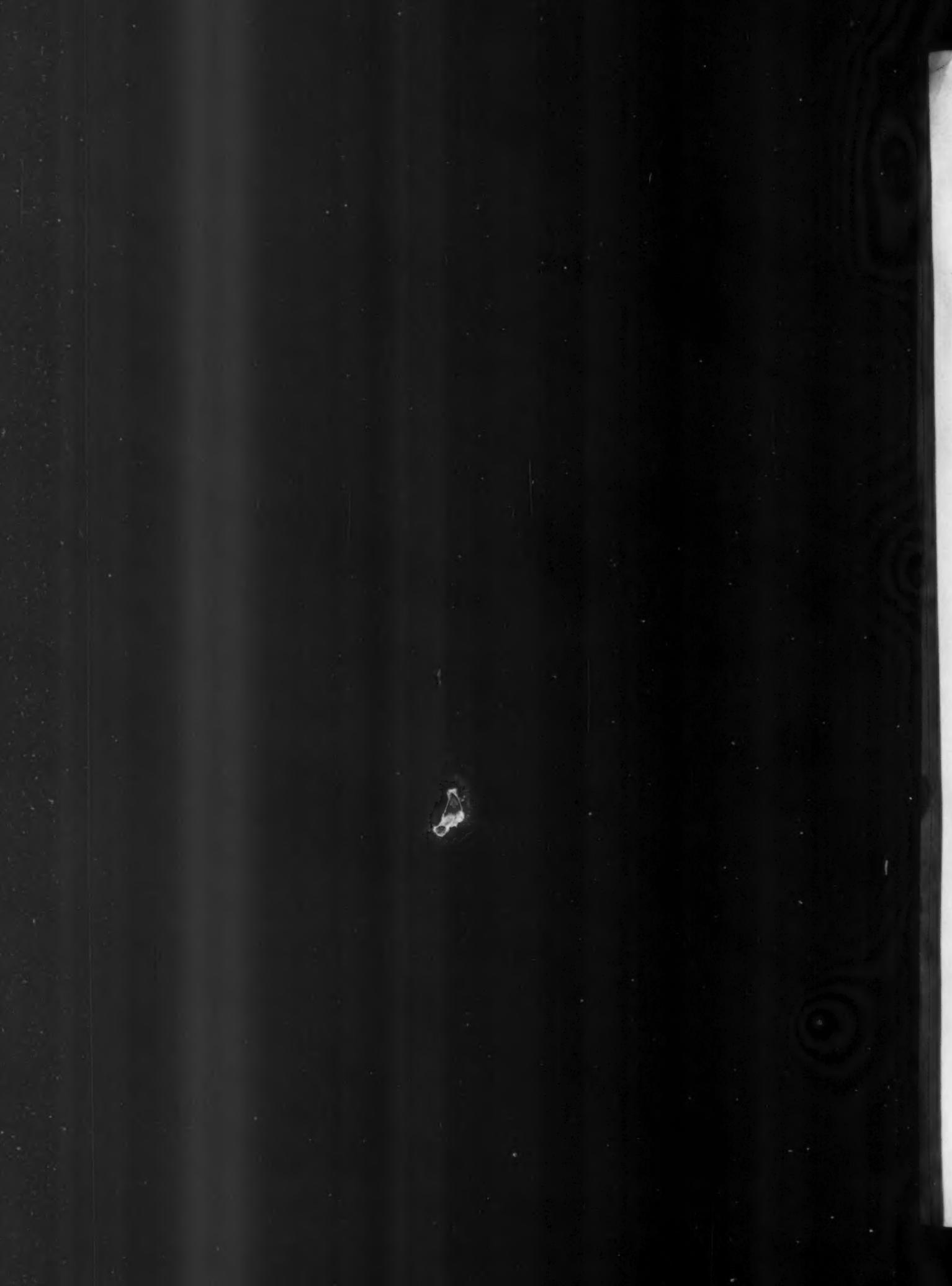
OF ALL DESCRIPTIONS

BRIDGE ARCH, 17 Frankfort St., NEW YORK

Telephone 8196 Beekman

Cable Address "Adhirschco"







Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.,
No. 395 BROADWAY, NEW YORK.
CABLE ADDRESS: IRWORLD, NEW YORK.

HENRY C. PEARSON,
EDITOR.

HAWTHORNE HILL,
ASSOCIATE.

Vol. 38.

JUNE 1, 1908.

No. 3.

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and dependencies and Mexico. To the Dominion of Canada and all other countries, \$3.50 (or equivalent funds) per year, postpaid.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Postoffice or Express money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Postal order, payable as above.

DISCONTINUANCES: Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

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Entered at New York postoffice as mail matter of the second class.

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AUTOMOBILES AND RUBBER.

HERE is no reason for the rubber interest to feel dubious with regard to the future so long as motor cars continue to be made and used in constantly increasing numbers, and this condition now appears to be as permanent as any other economic factor in present day life. If one were to judge of general business conditions in the United States by the status of the automobile industry alone, the conclusion might reasonably be that in no past time had the country been so prosperous. Each year adds to the number of horseless carriages here more than the total number registered in any other country on earth, and every indication points to the manufacture of a still greater number in each year to come, until the horse-drawn vehicle will be visible only in museums, alongside relics of Egypt and Assyria and Pompeii.

The business depression in America during the past half year has been accompanied by a concerted disposition on the part of manufacturers and others who build for the future to limit production solely to immediate demands. Great concerns which formerly were active twelve months in the year producing goods which might reasonably, judging from past experience, find a market ultimately, decided to make nothing which

was not called for in specific orders actually in hand.

The result is that such important organizations as the United States Rubber Co., whose latest annual report appears on another page of this issue, have in hand to-day an exceptionally small inventory of raw materials and finished goods. At the same time every effort has been made by them to bring together the largest possible volume of "quick assets"—cash and other realizable items. The fact that these concerns have been less active than in former years during the winter months is by no means to be taken as evidence of an unhealthy condition of trade and industry.

On the other hand, when the whole history of the year just closed comes to be written, we believe that the opinion will find support that decidedly healthful conditions have obtained. Why go on, year after year, making goods without an occasional taking of stock to see whether the rate of output was not in excess of the rate of development of the country? Such stock taking has now occurred, and the resumption of activity in the rubber industry, based upon the renewed liberal demand for goods of all kinds, is clearly reflected in the recent advances in the price of raw rubber.

But we have digressed here to consider the rubber industry as a whole, after starting out to discuss the automobile industry, which would not exist but for the rubber tire. This branch of the rubber industry was never so prosperous as at this moment. Not only is every tire maker of importance working overtime nowadays to meet the demands of customers, but the manufacture of rubber tires in America is more profitable to-day than ever before. It is not so long since the head of a certain rubber company declared that whereas tires had represented 55 per cent. in selling value of their output for a year, the remaining 45 per cent. of products had supplied the whole of the company's profits. During the past year the same company, with a largely increased production of automobile tires, has derived a handsome rate of profit from this line, though selling at distinctly lower prices.

The truth is that the automobile is too new a factor in life to have become definitely placed until now, and the rubber man, like everybody else concerned in its development, has required time in which to "find himself." The automobile is as firmly placed now, however, as an economic factor as the horse and wagon ever were, and seems likely to hold its own in days to come as long as the horse and wagon did in the past. All of which points to good business for the makers of rubber tires, year after year, on a scale which would make Charles Goodyear and Thomas Hancock turn incessantly in their graves if news could reach them of the great development which has taken place in the industry which they labored so long and so hard to develop, with such small rewards, measured by twentieth century conditions.

It may be in order here to observe that the automobile makers of the country have set a most commendable example during the past few months of so-called business depression in continuing business "at the old stand," foreseeing with marked sagacity the actual state of business and building machines for the demand that is now so active. Had manufacturers in more lines emulated their example the exposé of a few rotten banks in New York last October would never have resulted in anything so nearly resembling a panic.

All hail the automobile manufacturers, whose consistent attention to business has proved so great a godsend to the rubber industry of the country.

INTERNATIONAL PATENT PRACTICE.

THE new regulation in Great Britain, practically restricting patent protection to inventions and discoveries which shall be actually exploited in that country, marks a new tendency which is not unlikely to become general. Such a rule obtains already in France, and its adoption is being considered in Germany and the United States. And why not?

The provision in the American constitution for securing to inventors the sole control for a term of years of their discoveries was intended primarily for the encouragement of American invention and the development of domestic industries. Without doubt its application has tended enormously to the progress which has so rapidly placed the country in the front rank of industrial nations. But the liberality with which the nation has welcomed foreign ideas as well as men of foreign birth has placed us in the position to-day of protecting many European industries which profit on a large scale from the American patent laws without contributing directly one penny to the rewards of domestic labor.

The new idea, first developed practically by France, is that the nation shall not aid in any monopoly of an invention unless the same shall be developed to some extent in the country granting the patent. Else what return does that country get for the protection thus granted? What reason, in other words, exists for granting the patent to a foreigner?

These considerations apply with equal force to every industrial country; they might well be ignored by a country such as Greece or Brazil which do not rank to an important extent among manufacturing nations, but where some protection to the author of an important invention is only just and fair. Not that it is less just and fair in America or England or Germany, but the difference is that the people of one of these countries, where facilities exist for every branch of manufacture, should be permitted to benefit in some direct way in return for the patent protection granted to an alien.

It occurs to us that the time has arrived for an inter-

national patent bureau, the purposes of which should be (1) to determine what actually are new inventions, and therefore entitled to patents; (2) to supervise the carrying out of treaties relating to patents between the countries in interest, and (3) to secure actual protection to inventors—something which is now the exception rather than the rule. An inventor to-day, wherever his home, in order to secure a patent in whatever country must pay for a search in its archives to determine its novelty in that country, involving a heavy expense in case he should apply for protection throughout the civilized world. Why should there be more than one search of this kind?

It long has been the practice in England for the government, upon representation being made that a patented invention, whether domestic or foreign, is not being supplied sufficiently for the demand, to call upon the patentee to show cause why a license should not be granted to others to manufacture the article. The idea does not obtain there that a patent monopoly should be absolute, but that it should be considered with regard to the greatest possible good to the public, a reasonable regard being had to the interests of the inventor. It is consonant with this theory that a foreign inventor, protected by a patent on his discovery against competition in the country granting that patent, should be required to exploit it in some such way as to share his profits with the people of that country.

The details of patent law have changed materially of late years in many countries, and generally in the same direction, which seems to render more practicable now than at any time in the past the idea of an international patent system.

FINE RUBBER FOR 12½ CENTS.

THE cost of tapping eight-year-old *Hevea* trees and curing the rubber, on an important plantation in the Malay States, according to a report to the shareholders in the company owning it, for the last half of 1907 averaged 12½ cents (gold) per pound. The average yield of the trees for the year was about 3¼ pounds, or just twice the average for the preceding year, and a still larger yield is expected for 1908.

The cost of extraction and preparing rubber for market on this estate (one of the Anglo-Malay company's properties) has been reduced steadily, due, it is to be inferred, both to the increased productiveness of the tree—doubling in one year the output per acre—and to the increased experience of the operatives. Doubtless we shall hear later of a still lower production cost, but even 12½ cents per pound allows a very handsome margin of profit for a product which realizes 90 cents a pound or more after deducting freight and selling charges.

Of course, cost of administration and interest on the investment have to be considered, but the upkeep of

mature rubber trees is inexpensive, and the leading plantation companies now selling rubber seem not to have been overcapitalized. While there are no indications that rubber will go much lower than now—for some years at least—it is evident that the people who are producing 12½ cent rubber to-day need not worry about selling prices during the rest of their natural lives.

CONDITIONS IN AMERICA CONTINUE TO BE QUOTED ABROAD as the cause of the general depression in the rubber industry. We do not hear any similar reason given, however, for the unusual employment of operatives in the cotton industry of Great Britain, where, according to a high authority, there were recently 30,000 weavers idle. It is possible that like conditions have produced like results in industries generally on both sides the Atlantic.

OUR OLD FRIEND "RUBBER FAMINE" HAS BEEN DISCOVERED AGAIN—this time by the New York *Business and Finance*, according to which journal "the condition is serious." It is true that in many localities the native supply of rubber is vanishing, but we are not sufficiently gifted with foresight to behold with our contemporary the disappearance of the last rubber tree, or to agree with it that "the crisis will come with appalling suddenness and the vast fabric of capital built on the product will fall to the ground." We would advise a more placid frame of mind, in view of the near approach of the heated term.

THE ACTIVITY OF THE ELECTRICAL INDUSTRY is a most encouraging symptom of the general business situation. It is true that the electrical companies have not escaped the effects of the recent financial depression, but already they show evidences of rapid recuperation, which means, of course, that the thousand and one industries and businesses which call for the various applications of electricity are in a healthful condition. It is this great diversity in the uses of electricity that forms so secure a foundation for the suppliers of apparatus in this field. Not less interesting than the amount of business done by the General Electric Co. during 1907—upwards of \$70,000,000—is the fact that this sum relates to no less than 237,006 separate orders and contracts. Every new development in electrical applications seems to open the way for countless others; the installation of a lighting station in any town, for example, renders possible the supply of current for all kinds of industrial and household purposes, for which previously electricity was not or could not be used in that locality. Hence the General Electric Co. will with equal readiness contract to sell electric locomotives for the heaviest railway service, or electric flatirons for the household laundry, or electric chafing dishes. These smaller articles, by the way, are coming to form no mean share of the whole business in electrical supplies. The tendency is to employ electricity for every possible purpose, and the list of possibilities is not likely to become exhausted until human ingenuity has reached its limit.

THE RUBBER INDUSTRY IN NEW JERSEY came into existence almost as early as anywhere else, and has now become one of the most firmly established branches of manufacture in that state, ranking tenth in respect of the value of products in a list of 88 specified industries covered by the thirtieth annual report of the New Jersey bureau of statistics. For obvious reasons all such reports may be open to criticism as to their accuracy in matters of detail, while their general indications may command full respect. One point which seems to merit notice in the New Jersey state reports is that while the average holdings of shares in rubber corporations in that state in 1899 was stated definitely at \$18,260, the number of stockholders had so increased by 1906—from 356 to 4937—that the average, while not specifically stated, apparently is not over \$2500, reference being had, of course,

to par values. This tendency, it occurs to us, is a desirable one. The wider the distribution of shares in any legitimate permanent undertaking, and more particularly in an interest liable to be affected by legislation, the more apt will the public mind be correctly informed when any occasion for voting arises. In a community where every citizen with a few hundreds of dollars saved is part proprietor of a corporation, the proper regulation of corporations by law is much more likely to be discussed intelligently than where the opposite condition prevails, and the average voter is susceptible to the appeals of the political agitator to pull down everything in the shape of a corporation, regardless of its merits. On the whole, the manufacturing interest is a profitable one, and why should not every citizen be in a position personally to share in profits of this class?

THE UNCEASING PATENT GRIND.

THE patent office at Washington shows no sign of going out of business. During the last fiscal year (ending June 30, 1907) the number of applications filed for patents was 56,514 and the number of patents granted was 33,644—not counting design patents, reissues, trademarks, labels, and the like. The cash receipts were \$1,859,592.89, which provided for all expenses and left a surplus of \$275,103.19. All these figures are larger than under the same heads in any former year. The number of United States patents granted up to June 30, 1907, was 867,225, all on file at the office in Washington, in addition to about 3,000,000 patents granted in various foreign countries, all of which must be gone through in making any examination as to the novelty of inventions for which new patents are desired. Patent specifications continue to be in wide demand, the number of printed copies distributed last year having been 2,117,847, the sales realizing \$86,433.88. That the patent office is not doing a losing business is evident from the annual surplus of receipts over expenses for the past 46 years.

The library of the British patent office, established in 1855, had been visited to the end of 1907 by 2,975,547 readers. It has proved increasingly popular from the beginning, the number of readers last year (1907) having been larger than in any other year. This library embraces the patent specifications of all countries and a very extensive collection of scientific journals, transactions of societies, and text books. THE INDIA RUBBER WORLD has been kept on file at this library since the establishment of the paper. The library is free to the public daily, and probably is more largely resorted to by persons concerned with inventions and patents and such matters than any other library in existence.

The extent of the patronage of this library may be more fully realized, perhaps, by considering that the total number of visitors calling for books at the Astor Library (a branch of the New York Public Library) during 1907 was only 185,994, including 5,491 who registered in the patent alcoves. It should be added, however, that the Astor Library has a large department of reference books and a periodical reading room, which may be visited without any registration, and the numerous readers in which are not counted. The Astor Library has on file the full specifications of all patents that have ever been granted in the United States, Great Britain, and several other countries.

THE plant described as "The Rubber Plant of Southern Europe" in THE INDIA RUBBER WORLD, March 1, 1908 (page 177)—*Atractylis gummifera*—is mentioned in a French pharmaceutical journal as one of the few recorded instances of a plant of the natural order *Composite* containing a poisonous principle. The fruit and receptacle are eaten without ill effect, but several fatal cases of poisoning with the root are on record. A product of the plant, potassium atractylate, is non toxic for frogs, but is fatal to rabbits and dogs, producing tetanic convulsions like strychnine.

The Editor's Book Table.

INDIA-RUBBER AND ITS MANUFACTURE. WITH CHAPTERS ON GUTTA-PERCHA AND BALATA. By Hubert L. Terry, F. I. C. New York: D. Van Nostrand Co. 1907. [Cloth. 8vo. Pp. ix + 284. Price, \$2.]

THE INDIA RUBBER WORLD is glad to add to its library another book on india-rubber, this time by no less a writer than Hubert L. Terry. The book is well printed, substantially bound, and exceedingly well written. The illustrations are not many, but are good. An excellent index, something that every book on rubber should have, is a valuable part of the volume. As far as the subject matter goes the book certainly lives up to its preface. In that two page explanation the author expressly denies writing a "working guide or hand book" for the rubber manufacturer. It is for the general reader or the technologist in other lines who desires a brief statement of the rubber business as a whole. As long as the rubber business is so specialized, however, there are few manufacturers who will not find much of value in its pages, particularly in being able to grasp the general procedure in lines other than their own.

The twenty-four chapters into which the treatise is divided are really two score and four very excellent essays. In the first, which is historical, the author gives England, justly too, the credit for the first beginnings in the manufacture of rubber goods, the Hancock date of 1819 and the Macintosh date of 1820 certainly antedating anything in that line elsewhere. That was, however, before the discovery of vulcanization, and if one were to be really just to the industry its "establishment" should be taken as coincident with the first production of cured goods.

The chapter on crude rubber is excellent and considers all of the sorts that are on the market to-day, including guayule.

In the chapter on the chemical and physical properties of rubber Mr. Terry is very much at home, and as it were lets himself out a bit, as he does in the chapter following, on vulcanization.

Of all the chapters in the volume the one most interesting to the manufacturer will be that on substitutes, partly because England and the continent knew the so-called rubber substitute long before America did—and were able to do more with it. But when it comes to discussing reclaimed rubber, which Europe is only beginning to appreciate, he reflects the state of the art in his part of the world but not as it relates to the United States, for example. This is not in the way of criticism, but a statement of a difference due to view point.

On the use of rubber solvents and their recovery, the author shines. Here are no trade secrets to be carefully guarded, and the subject is of prime importance. It is dealt with most fully, and should be read by every mixer of solutions, and every producer of spreader work.

As for the other chapters, they cover proofing, druggists' sundries, tires, mechanical rubber goods, insulated wire, vulcanite, cut sheet, general compounding, gutta-percha, and balata, with some excellent suggestions as to the testing of vulcanized rubber goods.

Coming back to the author, Mr. Terry has a clear, concise, scholarly style, and knows much about rubber. For many years he has been a consulting expert, having done work for some of

the largest of the English manufacturers, and his conclusions are uniformly sound. His book is a good one and the trade will welcome it.

MEXICO AND HER PEOPLE OF TO-DAY. An account of the Customs, Characteristics, Amusements, History and Advancement of the Mexicans, and the Development and Resources of Their Country. By Nevin O. Winter. Boston: L. C. Page & Co. 1907. [Cloth. 8vo. Pp. vii + 405 + plates. Price, \$7.]

WHILE Mexico and her people have always been subjects of interest to the intelligent classes elsewhere, the recent growth of business relations between that republic and the United States render a knowledge of the southern country now of real importance to its northern neighbors. The book which Mr. Winter has written is not the work of a fleeting tourist, but is that of a man who has prepared himself by years of residence and travel

in the country, in connection with the reading of what has been written by his predecessors in that field. An authority on the subject asserts that this is "the very best book about Mexico that has been published in English for perhaps two generations." Be that as it may, the present reviewer has seen nothing comparable with it, and it can hardly fail to be read with interest whether the reader has business relations with Mexico or not. Besides being entertaining reading in general, this book may be recommended particularly on account of the help which it lends to the non Mexican in understanding the differences between the two civilizations north and south of the Rio Grande. Though changes are taking place in Mexico, the country is still conservative, and where customs have been established for centuries without change it is not strange that antiquity alone should be a sufficient reason in the minds of the people for not welcoming new ideas from the outside. Mexico, it must be remembered, had the printing press a full century before the United States, and there are many other matters connected with civilization in which the Mexicans can claim

priority over any other people in North America. The readers of Mr. Winter's book will be better prepared, in case of dealing with Mexico, to understand any reluctance which the people there may have to adopting as a matter of course whatever ideas or customs the newcomer may seek to introduce in order to make himself "feel at home." The numerous pictures in this book have been superbly reproduced from excellent photographs taken by the author and a traveling companion.

THE director in chief of the New York botanical gardens, Dr. N. L. Britton, while on a recent visit to the experimental station maintained in Jamaica by this institution, obtained a good specimen of rubber from the vine *Forsteronia floribunda*, a plant referred to in this journal in the issue for June 1, 1907 (page 274). Dr. Britton informs THE INDIA RUBBER WORLD: "Rubber is extracted from this vine by the negroes in small quantities, but what they get seems to be of great elasticity. The vine is native in rocky limestone woods and thickets, growing one in a place, so that the total amount of it cannot be anything very great; cultural experiments by the Jamaica botanists have not been very promising, but it is possible that some results might be had out of it."



HUBERT L. TERRY, F. I. C.
[Author of "India-Rubber and Its Manufacture."]

The Coming Rubber Exhibition.

THE International Rubber and Allied Trades Exhibition to be held in London in September next is designed to direct public attention to the enormous advances made during recent years in the rubber industry and also in the methods of producing and making available the raw rubber used by manufacturers, and to bring these two important interests into closer touch. The brilliant success of the Ceylon Rubber Exhibition in 1906, though that was practically a local enterprise and confined to the rubber planting interest in a small part of the world, led to repeated suggestions that another rubber exhibition be held on broader lines and in a location more readily accessible to the bulk of those interested in rubber. These suggestions have crystallized in the forming of a committee composed of manufacturers, merchants, planters, botanists, chemists, and others with a view to holding the proposed exhibition in London. The original small committee has grown until it is not only representative of all the various interests above alluded to, but is also truly international. The "advisory committee" embraces names of persons of standing in every country in Europe, in the various colonial possessions of England and the continental countries in which rubber is produced, in Brazil and other South American countries, Mexico, Hawaii, and the Philippines. At this time plans are making for the proper representation of American rubber interests on the committee.

It is proposed that the department devoted to plantation rubber shall illustrate methods of tapping, coagulating, and drying rubber, with exhibits of utensils and machinery for such purposes, and that there shall be very full exhibits of rubber from different species, prepared by various methods. It is intended also that there shall be also exhibits of wild or native rubbers from Brazil, Africa, and other producing countries. Gutta-percha, balata, and the kindred gums are to have attention no less than rubber.

The manufacturers' section is to embrace goods made wholly or partly of india-rubber, gutta-percha, and so on, together with the raw materials other than rubber used in this industry—compounding ingredients, textile fabrics, and the like. In this department also spaces have been allotted for machinery and utensils used in the rubber industry. A final department will relate to rubber literature, including maps of rubber regions, and photographs illustrative of the various rubber interests.

The organizers are making arrangements for the delivery of illustrated lectures and addresses on rubber and its uses and cognate subjects, and no pains is being spared to provide a program which by its development shall tend to bring nearer together the producers

of rubber as raw material and the consumers of rubber in the manufacture. It is believed that it will be helpful to large users of rubber to become as fully acquainted as possible with all of the grades of the raw material available and to become familiar with methods employed in its production, and that on the other hand it will be of advantage to rubber growers and exploiters to learn what are the wants of factory managers in order to be able to the fullest extent to supply these.

The exhibition is to be held in Olympia, the largest building in London for exhibition purposes, and which has been used for several automobile shows. Originally the use of a smaller building was proposed, but the requests for space were on such a scale that its use became impracticable and Olympia has been secured. It is planned to open the exhibition on Monday, September 14, and to keep it open until Saturday evening, September 26.

In Ceylon the planters' association and chamber of commerce of Colombo have appointed a joint committee to organize an exhibit from that colony, with the aid of a grant from the colonial government. Space has been obtained at Olympia, and the work of organizing the exhibit is proceeding actively. Exhibits will be contributed by the different districts collectively, though individual exhibits will be allowed.

The government of the Federated Malay States and the Planters' Association of Malaya also are taking an active interest, and are preparing an exhibit with which will be combined that from the Straits Settlements.

The Dutch government have appointed a commission to represent Holland and her colonies extensively at the rubber exhibition, though the extensive plantations of rubber which have been formed in Java and Sumatra have not yet reached a productive age.

The Rubber Planters' Association of Mexico at its last annual meeting, as already reported in these columns, appointed a committee to arrange for a collective exhibit from that republic, and the committee has since been active in carrying out the work.

It is announced that Brazil will be represented by many separate exhibits, and probably by a general exhibit supported by the government. The British West Indies will be officially represented, as well as several parts of British Africa and also Portuguese East Africa. An official exhibit is booked from Hawaii.

The presidency of the exhibition has been accepted by Sir Henry Arthur Blake, K. C. M. G., late governor of Ceylon and president of the successful Ceylon rubber exhibition held in September, 1906, during his term of office in that colony. Several persons prominent in the rubber world have been named as vice presidents.



SIR HENRY ARTHUR BLAKE, K. C. M. G.
[President of the International Rubber Exhibition.]



WHERE THE RUBBER EXHIBITION WILL BE HELD.

Some Native Sources of Rubber.

RUBBER YIELDING VINES IN COLUMBIA.

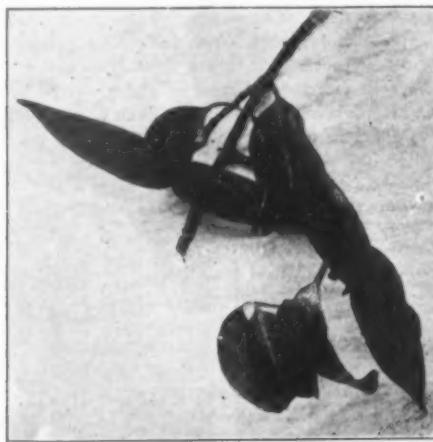
COLOMBIA at one time ranked among the first of rubber producing countries. The native rubber supplies accessible from the coast line were speedily exhausted, however, and the business of gathering rubber was transferred to other countries, having better means of interior communication. Without doubt Colombia is still rich in



"CAUCHO OREJA DE MULA."

[The "mule's ear" rubber plant of Colombia—showing the pairs of leaves so shaped to suggest a mule's ears, and the flower.]

rubber, however, and measures are developing in various parts of this extensive republic for increasing the output of this valuable material. Not the least interesting feature of the Colombian situation is the great number of tree species yielding rubber of value—including *Hevea*, *Sapium*, *Castilloa*.



"CAUCHO OREJA DE MULA."

[The "mule's ear" rubber plant of Colombia—showing two pairs of seed pods.]

Doubtless there are also several vines or creepers from which rubber might be obtained in paying quantities; indeed, information is being gained already in regard to such plants.

General Diego A. De Castro, while governor of the department of the Atlantico, noticed a vine in his *hacienda* that,

on being cut, yielded a rubber latex. He cut several sections and drained them into a cup and the latex soon coagulated, giving a high percentage of a light colored rubber of very good quality. He then had the vine transplanted to the *patio* of his beautiful home in Barranquilla, and found it to be a quick growing plant, sprouting from either root or seed, and yielding rubber in from a year to 18 months in such quantities as to promise commercial results when handled on a large enough scale. General De Castro hopes soon to have a considerable number of seeds for distribution. The plant referred to, and called by the natives the "mule's ear," by reason of the shape of its leaves and seed pods, is illustrated on this page. Don Diego is described by a correspondent of THE INDIA RUBBER WORLD as "one of those who not only pray for Colombia's prosperity, but work for it a good deal harder than they pray. He is one of President Reyes's right hand men."

Another distinguished citizen of Colombia who takes a live interest in the development of the country is Don Jesus del Corral, of Bogotá, who recently discovered on one of his *haciendas* in the interior, a vine, believed to be different from the one just described, which he states to be a liberal yielder of rubber and easy of propagation. It is found at altitudes of less than 2,000 feet. He is planting it on a scale that will permit of a fair test of its commercial value. "Don Jesus," says THE INDIA RUBBER WORLD's correspondent, "is one of the aristocrats of Colombia, with many *haciendas* and mines. He spends some of his time in Bogotá, writing articles for the press that make people sit up and take notice. When he tires of telling people he goes to the *haciendas* and shows them. He has to his credit the discovery of a plant that has proved of great value to medical science."

DEVELOPMENT IN BRITISH GUIANA.

THE British Guiana Rubber Corporation, Limited, has been mentioned already in THE INDIA RUBBER WORLD [August 1, 1907—page 337—and subsequently], but until now its development has been retarded by legal proceedings arising in the colony, by reason of which a license for the company to do business was refused by the authorities. These troubles having been overcome, the company have issued a new prospectus. They announce the acquisition of additional licenses from the British Guiana government to collect rubber and balata, so that the area now within their scope is very extensive. From October 1, 1907, to February 18, 1908, it is stated that the company shipped 12,044 pounds of rubber and balata, some of the rubber (*Hevea*) selling in London at 3s. 6d. [=85½ cents]. They are collecting forest produce now, but purpose to plant rubber extensively. Registered offices, 77 King William street, E. C., London.

CAPTAIN BOYNTON NOT GOING TO HUNT RUBBER.

WHAT was extensively advertised as a scientific expedition for exploring the southern watershed of the Amazon, under the leadership of Captain George Melville Boynton, of Boston, and which was promised to promote studies for the special benefit of the rubber trade, appears to have been abandoned. The last news of Captain Boynton, under date of May 5, related to his being sentenced to prison in New York for three months on a charge of defrauding a hotel.

GUATEMALA.

EXPORTS of crude rubber in 1905 amounted to 368,046 kilos [=809,701 pounds], and in 1906 to 388,106 kilos [=853,833 pounds]. In the latter year 76 per cent. of the exports went to Germany, 12½ per cent. to the United States, and the remainder to other countries.

The Progress of Rubber Culture.

PROFITS OF THE ANGLO-MALAY COMPANY.

THE business reports of the Eastern rubber plantation companies which have reached the stage of paying dividends are filled with so much detail as to render them much more informing than is true of public companies as a rule. We have devoted space already to some of the details of the Vallambrosa estate reports, and now are in a position to give some figures of interest regarding The Anglo-Malay Rubber Co., Limited, also in the Federated Malay States. By the way, in the absence of views of the latter company's properties, there is introduced here a typical view of a plantation of Pará rubber (*Hevea*) owned by the Vallambrosa company, with the idea that one such plantation is very similar in appearance to another.

The Anglo-Malay company collected in 1907 from 68,235 trees 224,778 pounds of rubber, or an average of 3.29 pounds per tree, for which the average price realized was just over 3s. 9d. [=91.2 cents], after deduction of all freight and selling charges. The dividends for the year, at the rate of 20 per cent., amounted to £24,825 [=£120,810.86], or about 53½ cents for each pound of rubber handled, although the average price realized was 29 cents a pound less than in the year before.

On the company's principal estate, "Terentang," 28,043 trees, in their eighth year, yielded 105,655 pounds of rubber, or an average of 3.76 pounds per tree. During the preceding fourteen months the average yield of these trees was about 1.68 pounds. In other words, the rate of yield was more than doubled during the year. The cost of tapping and curing on Terentang estate averaged about 13½ cents per pound, taking the whole year into consideration. During the last half of the year, however, the cost was just over 12½ cents. The rubber thus appears to have netted nearly 80 cents a pound, since the report would indicate that the Terentang estate product realized about 92.4 cents.

The company's income is charged with the upkeep of a large acreage of rubber not yet old enough to tap, and the cost of last year's new planting, so that the dividends by no means represent the entire profit of rubber production for the year. The expenditures during the year for upkeep, new development, buildings, machinery, etc., totalled \$87,893.85. Presumably much of this will not have to be repeated, while the trees tapped last year are expected to yield considerably more in 1908. Besides, there are yet nearly half a million trees to come into bearing. All of which would seem to point to comfortable dividends on Anglo-Malay shares, even if rubber should fall even below present prices. There were recent transactions in the company's fully paid shares at 3½ times their par value.

OTHER FIGURES OF YIELD AND COST.

THE Seremban Estate Rubber Co., Limited, in the Malay States, collected last year 109,055 pounds of rubber, against 62,258 pounds in 1906. The cost of the rubber and laying it down at

Colombo averaged a fraction less than 38 cents, whereas in 1906 it was 52½ cents—a notable decrease. The year's working netted 39 per cent. on the capital, and dividends amounting to 33 per cent. were paid, against 24 per cent. in 1906 and 5 per cent. in 1905.

At the third annual meeting of the Batu Caves Rubber Co., Limited (London, April 24), the chairman, Mr. H. K. Rutherford, said that even if the price of rubber should fall to 1 shilling 10 pence [=44.6 cents] per pound, this estate would appear to be capable of yielding a profit equal to 30 per cent. on the capital.

A planter in Perak writes to the *Tropical Agriculturist* of the discovery on his place of 70 planted *Hevea* rubber trees, of which he has no history, and which were never tapped until last October. In February he reported that they had yielded over 700 pounds of fine rubber and 50 pounds of scrap, and were still being tapped, with no indication that the trees were being injured in any way.

PLANTING INTERESTS IN MEXICO.

At the last session of the Rubber Planters' Association of Mexico in February last, it was resolved to hold the next meeting somewhere on the isthmus of Tehuantepec during the coming summer, to arrange for which a committee was appointed, consisting of James C. Harvey, A. B. Coate, L. A. Ostien, V. O. Peterson, and W. C. Gruels. A program is being arranged for such meeting for the latter part of July, at Rincon Antonio on the National Tehuantepec railway. It has been proposed that a Mexican rubber exhibition be held in connection with this meeting, at which can be shown the exhibits which are being prepared for the International Rubber and Allied Trades Exhibition at Olympia, London, in September.

A new corporation has been formed under the name Hacienda Del Corte, Incorporated, to acquire and conduct the rubber and coffee plantation "Del Corte" in the state of Oaxaca, Mexico, succeeding the Isthmus Plantation Association of Mexico, with headquarters at Milwaukee, Wisconsin. The planting of rub-

ber began in June, 1901, and has been continued year by year, until there are more than 1,000,000 trees standing. The plantation was developed under contract and was held in trust while the subscribers to the plan were paying for shares in installments. The development work having been completed, the shareholders have assumed direct ownership, with a new company name as above indicated. The officers are Walter Kempster, president; William De Steese, vice president; William H. White, secretary; and Charles B. Weil, treasurer. The headquarters remain at Milwaukee.

There must be many thousands of rubber trees in Mexico today, 7 to 10 years old, on plantations on which no tapping has yet been done, and on which experimental work will be done this year. Some very interesting results may be expected in the very near future.



CULTIVATED "HEVEA" RUBBER.
[Vallambrosa Estate, near Klang, Federated Malay States.]



LABORATORY FOR COAGULATING RUBBER.

[On the "Hacienda Del Corte," in Oaxaca, Mexico; photographed while in course of erection.]

RUBBER RESULTS IN MEXICO.

In a report to the stockholders in the Mexican Mutual Planters Co. (Chicago), owners of "La Junta" plantation, in Mexico, the president, George C. Sanborn, under date of April 27, 1908, writes that during January and February last some experimental tapping was done on 6½ year old *Castilloa* rubber trees, to test certain points, and that 1400 pounds of dry rubber were obtained, at a cost of about 25 cents per pound. Mr. James C. Harvey, the plantation manager, on his neighboring private plantation, it is stated, tapped some 7½ year old trees, gaining 1000 pounds of rubber, at a cost of 23 cents a pound. The experiments are considered as having resulted favorably, but commercial tapping is not planned before the trees are 8 years old. As the trees advance in age and increase in productiveness, Mr. Sanborn thinks that the cost of gathering rubber will drop at least to 12 or 15 cents a pound.

The 1908 report on the plantation of the Ohio Rubber Culture Co., near Manatitlan, Mexico, was written by Charles S. Eddy, of Akron, Ohio, chosen by the shareholders to visit the property. Their plantation is not yet old enough to yield rubber, but Mr. Eddy wrote that he visited two private plantations near Tuxtepec, which are yielding satisfactorily. These are not named in the report but Mr. Eddy informs THE INDIA RUBBER WORLD that one property is the sugar and coffee plantation of Señor Don Joaquin Jiminez, referred to in this journal [August 1, 1902—page 84—and subsequently] as having on it some thousands of rubber trees, planted originally



CURING RUBBER ON BANANA LEAVES.

[A method employed formerly on La Zacualpa plantation, in Mexico.]

for coffee shade. The other property, three miles from Tierra Blanca, Mr. Eddy mentions in his printed report as having 7 and 8 year old rubber trees, which were being tapped lightly but yielding at a rate which netted \$1200 a month. This property is owned by F. A. Hardy (president of The Diamond Rubber Co.), R. Cluke, and R. S. Willis, of Chicago, the latter being manager. Mr. Eddy states that he understands the \$1200 to mean gold.

On the property of The Tolosa Rubber Co., in Oaxaca, Mexico, Mr. W. L. Wadleigh in February tapped 50 *Castilloa* trees, 5 years and 8 months from planting, and averaging 18.7 inches in girth. The yield from the one tapping was 71 ounces of rubber, or nearly 1½ ounce per tree. Five diagonal cuts were made in each tree and the latex coagulated in the cuts.

An illustration on next page is reproduced from a publication by the Nanchital Plantation Co. (Chicago). The booklet says: "The illustration is from a firm doing business in San Juan Bau-



GROUP OF RUBBER TAPPERS ON LA ZACUALPA PLANTATION.

[Photographed November, 1907.]

tista, Chiapas, who claim to buy and sell nothing but cultivated rubber, their purchases and sales averaging about 10,000 pounds

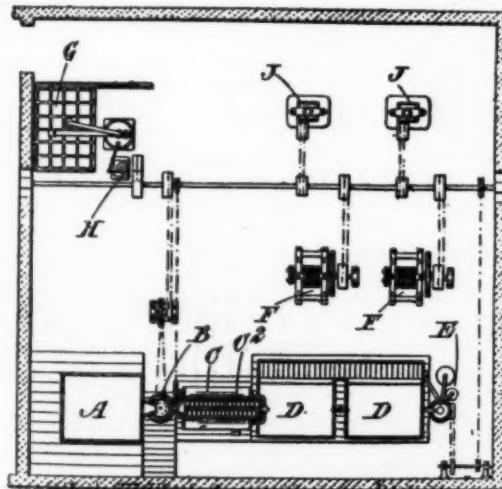


DEALERS IN MEXICAN CULTIVATED RUBBER.
[Store in San Juan Bautista, Mexico, of Harburger & Stack, New York Merchants.]

per month --- a matured tree yielding from 1 to 4 pounds of crude rubber per tree. Their business increases with the increase of matured rubber trees."

NEW APPARATUS FOR PREPARING RUBBER.

THAT the great rubber plantations in Mexico are soon to be producing rubber on a large scale is growing more and more evident. Perhaps nothing points to this more definitely than the production of practical tools and receptacles for tapping and gathering and the designing of plants for straining, coagulating and preparing rubber for market. An illustration herewith shows the ground floor of a preparing plant patented by Leslie Radcliffe and Dr. Pehr Olsson-Seffer. In brief, this covers a



APPARATUS FOR TREATING "CASTILLOA" RUBBER.
[KEY.—A. Receiving Tank for Latex. B. Centrifugal Strainer. C. Steam Jacketed Coagulating Tank. D. D. Settling Tank. E. Mother-liquor Separator. F. F. Ordinary two-roll Washer. G. Vacuum Pump. H. Vacuum Chamber. J. J. Block Press.]

receiving tank for latex, a centrifugal strainer, a steam jacketed coagulating tank containing a screw conveyor, a settling tank, and second centrifugal separator, washing rolls, vacuum drier and block presses. The inventors speak of mixing the latex in its primary stage with formalin, or other preservatives, and with an equal volume of water. The centrifugal strainer is lined with muslin, canvas, or perforated metal, and after passing through

it the strained latex is raised to a temperature not exceeding 115° F., and a small quantity of preservative such as an alcoholic solution of creosote, salicylic acid, or carbolic acid is added. From the coagulating tank the partially coagulated latex is passed into settling vats, and allowed to stand for two hours, when the mother liquor is drawn off from the bottom into a separator, and the coagulated latex is washed in the same tank by a stream of water which is forced upward from the bottom. A conveying belt then carries the coagulated rubber to a washing machine, where it is run in strips which are placed in a vacuum drier, partially dried, and then put into the press and forced into blocks.

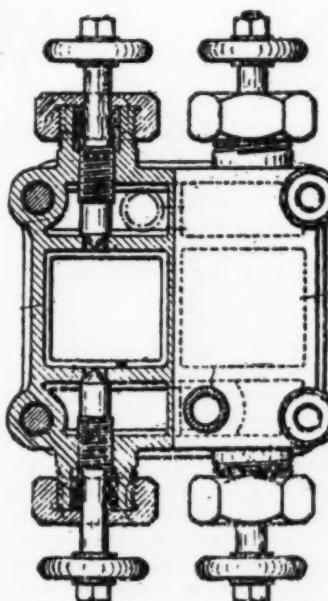
In actual practice it is altogether probable that this process will be somewhat simplified, although much of the arrangement is excellent—for example, the arrangement whereby the latex from the first tank (A) goes by gravity through the strainer, the settling tanks and the centrifugal.

With half a dozen such plants at work on the great plantations in Mexico, the minor discrepancies will correct themselves, and it will be along some such lines as this that the problem of handling latex in quantity will be solved.

PROGRESS ON PLANTATION "RUBIO."

THE investors in the Tehuantepec Rubber Culture Co. chose for the last annual inspection of Plantation "Rubio" Captain Charles A. Benham, who visited the property on the isthmus of Tehuantepec in February. His report, which has now appeared in pamphlet form, gives details of interest regarding the progress of the company's growing rubber (*Castilloa*), with figures comparing present conditions with those noted by earlier inspectors. On the whole, the plantation seems to maintain the high standard of condition which has marked it from the beginning. A number of good photographic views are included. Incidentally, it is stated that extensive operations in oil have been started by S. Pearson & Son, Limited, the English engineering firm, in the neighborhood of Plantation Rubio, and it is probable that in the near future the rubber company will derive considerable benefit.

A NEW TUBING MACHINE.



VALVE MECHANISM USED WITH BERTRAM'S TUBING MACHINE.

THE firm of Bertram's, Limited (Edinburgh, Scotland), manufacturers of rubber machinery, have patented an improvement to tubing machines which, aside from the slight change in the form of the screw and the cylinder, centers chiefly about the cored portions of the cylinder head. This is so arranged that the parts close to the die by means of hollow chambers and quadruplex valves may be heated or cooled more effectively than at present. A study of the patent would seem to indicate that it is designed to do away with the gas flame often used below the die to make the tubing flow more easily, particularly when refractory stocks are being spewed.

The Late Theodore E. Studley.

IN the life of Theodore Earle Studley, who passed away on April 30, was epitomized to an unusual degree the history of the rubber business, and he had contributed not only to its material success in many ways, but to the upbuilding and maintenance of the high standards of character and integrity which are admitted to characterize this branch of trade.

Mr. Studley was born in Worcester, Massachusetts, March 20, 1831, and after attending the schools of his native town entered the retail shoe store there of Olney Fenner Thompson. The latter later became employed by the New Brunswick Rubber Co., in New York, whither he was followed by Mr. Studley, who entered the employment of the same company on March 10, 1856. That was already an important concern in the rubber shoe trade, under its original president, Johnson Letson. At the date named the New York store (No. 100 Liberty street) occupied a site which is now in the middle of Church street. Their New York business was not confined to foot-wear but embraced a general line of rubber goods, and the house was considered the most important one in that branch.

In 1857 the New Brunswick company decided to confine itself to manufacturing, when its general business was taken over by Henry G. Norton, who had been in charge of the selling department. In 1858 Mr. Studley became a partner in the house, under the style H. G. Norton & Co., and in time they became the most important distributing house in the country for rubber goods. They were at one time sole distributors of the products of the New York Rubber Co., and a large percentage of the output of the India Rubber Comb Co., the Novelty Rubber Co., the Goodyear Glove company, and several other factories. When the National Rubber Co. (now the National India Rubber Co.) was formed, Norton & Co. became the general selling agents. At one time Augustus O. Bourn, now of the Bourn Rubber Co., was a partner in H. G. Norton & Co. Mr. Henry C. Norton, now of the Pacific Rubber Co. (San Francisco), was a nephew of Henry G., and began his business career in his uncle's house. But a list of the firm's connections in and out of New York, and of its "graduates," is too long to repeat here.

In 1872 Mr. Norton retired, on account of declining health, and the general business of the firm was sold to the Rubber Clothing Co., which at the same time took on also the name Goodyear Rubber Co. This change involved, for instance, the introduction of the Goodyear Rubber Co. into St. Louis and elsewhere in the West. The druggists' sundries department of the house, however, was continued by Mr. Studley, with a partner, until January 1, 1877, when he took charge of the downtown branch of the Goodyear Rubber Co., which was maintained until August, 1896. He then devoted himself to another line of business until June, 1898, when he became treasurer and secretary of the Goodyear Vulcanite Co., a house long established in the hard rubber trade, under the presidency of Myer Dittenhoeter (who had been in the business since 1857) and three years later reincorporated as the Vulcanized Rubber Co. This position

Mr. Studley held until the end of his life. He was at the offices of the company as usual until the Saturday afternoon preceding his death. On Monday he telephoned word that he was feeling indisposed, and on Thursday, at 3:30 P. M. the end came, due to an attack of pneumonia, accelerated by weakness of the heart.

Theodore E. Studley had been a member of the New England Society in New York from December, 1858—almost 50 years. He had long been a member of the Arkwright Club, of which he became one of the governors in 1902, and for a number of years had been in the habit of lunching on alternate days at the Arkwright and Hardware clubs. He was a member also of the New York Athletic, Twilight, and Round Table clubs.

Funeral services were held on the afternoon of May 2, at the late residence of Mr. Studley, No. 162 West Seventy-seventh street, New York, the ritual of the Episcopal church being observed. The interment was at Greenwood cemetery.

Mr. Studley, who had been a widower since December last, is survived by a daughter, Mrs. Robert A. Fielding, of New York.

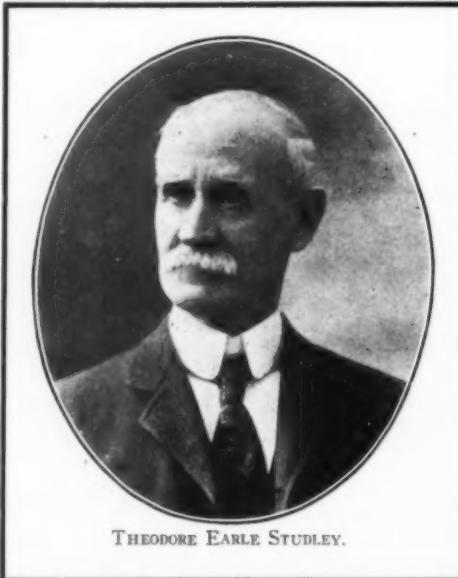
A very charming personality had Mr. Studley. Keen, alert, intellectually vigorous up to the day of his death, possessed of a fund of humor and of anecdote that was always fresh and kindly, he numbered his friends by the hundreds. No one ever saw him depressed or pessimistic. His work was always done, and he accomplished much, and he always had abundant time for social converse, and on the street, in his office, at his home, was ever the same quiet, courteous, hospitable gentleman.

Mr. Studley had two brothers who were engaged in the rubber trade—Colonel John M. and Thomas Earle—both of whom he survived. In 1865 they bought an interest in a firm in Providence, an outgrowth of the earliest Bourn firm, and pioneers in an important

way in the druggists' sundries manufacture, which from the date mentioned became A. C. Eddy & Studleys. After 1883 until 1894 the firm was Studley Brothers, and then the business passed into other hands.

NOT SUCCESSFUL IN THE ACRE.

A PETITION for the winding up of the De Mello Brazilian Rubber Co., Limited, presented by S. Lehmann, of Paris, a judgment creditor, was to be heard before Mr. Justice Neville, in London, on April 14. The company was formed in July, 1906, to acquire the going rubber estate of S. F. De Mello, in the Acre district. Share capital to the amount of £465,300 was issued. Large operations were reported for the first year, and sales of rubber reported amounting to £251,560. The reports submitted at the annual meeting, in London, on December 13, 1907, were unsatisfactory, however. On the same date it was voted to provide more working capital by the issue of debentures to the extent of £150,000, to secure which a deed of trust covering all the company's property and contracts was executed March 4, 1908.



THEODORE EARLE STUDLEY.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

A SECTION of the American press appears to accept without reserve the claim made by some English papers that the result of the recent notable by-election in Manchester sounds the death knell of Free Trade. Those on the spot know that this is by no means the truth, and that if free trade had been

THE FISCAL QUESTION.

the principal issue before the electors instead of being relegated by the Unionist candidate to the back seat the result

would probably have been very different. At the same time, the topic has come up for renewed discussion, and I have been asked how it is viewed in the rubber trade. My reply has been that unanimity of opinion does not prevail, and that we find partners in the same firm in opposing political camps. It certainly seems, however, looking at the more important Lancashire rubber works, that Tariff Reform has the greater number of adherents, especially among tire makers who are anxious to see some restriction put upon the free importation of French and German tires. Though not exactly apropos of this topic, but not altogether foreign to it, I may mention that an advertisement of the Continental Tire and Rubber Co. in a British trade journal came up recently as the subject of a question in parliament, Mr. Evelyn Cecil asking the president of the board of trade whether he was aware that the advertisement contained an illustration of a motor tire in conjunction with two British flags. The answer was to the effect that the department were considering whether an offence had not been committed under the merchandise act. Mr. Cecil, it may be mentioned, is member for Aston Manor, where the Dunlop company's works are situated, so that it is possible that he was not acting entirely on his own initiative.

A STATEMENT which has appeared in print that this company is being voluntarily wound up, and the creditors requested to

THE RADAX CO., LIMITED.

send particulars of their claims to the liquidator, has given rise in some quarters to a misapprehension of the position of the company. I may point out that the winding up is merely for the purpose of capital rearrangement so as to more fully protect the interests of those who have become associated with the business of late. The sole license for the manufacture is now in the hands of the British Insulated and Helsby Cables, Limited, at whose Helsby works the manufacture and trials have for some time been carried on by Mr. L. Johnstone, a. sc., who has been associated with the Radax cycle and motor tire since business was first commenced at Blackley, near Manchester. The cycle tire has been abandoned, but from persons who have had the Radax motor tire fitted to their cars I gather that it has proved in every way satisfactory.

The appointment of a treasury committee to inquire into the work of this comparatively new institution was the direct

THE NATIONAL PHYSICAL LABORATORY.

outcome of the strong protests made by professional bodies such as the Institute of Chemistry that the laboratory was going outside the charter of its foundation and competing in analytical and ordinary routine testing work with professional men who had not the advantage of being backed by public funds. To my mind the protests were amply justified, and the report of the committee, though it will not be considered entirely satisfactory by professional men, must assuredly lead to the laboratory confining itself more closely to the purposes for which it was founded and endowed, viz.: the standardization and verification of scientific instruments. The evidence given by Mr. R. K. Gray, of the Silvertown rubber company, is interesting, as it was not generally known that Dr. W. A. Caspari's researches at the laboratory on gutta-percha and balata were carried out at the

instigation of the Silvertown company. The work was paid for to some extent, at any rate, by the firm, and the results were eventually published for the public benefit. But it is easy to see that cases might arise where if a firm paid for an investigation they might object to its publication for the benefit of others. Complications are bound to arise if work of investigation for private firms is carried on under the laboratory's present charter. Mr. Gray expressed himself in favor of the scope of the laboratory being widened so as to include ordinary routine testing, which is of course absolutely outside the objects of its foundation, and strenuous opposition is certain to be made to any application of public funds to this end.

ADVERTISEMENTS in THE INDIA RUBBER WORLD and some recent correspondence have directed my attention to this product,

ELATERITE.

which in England is known chiefly as an interesting mineralogical specimen, and is rarely to be met with except in mineral collections. Its principal place of occurrence in England is in Derbyshire, where, especially in old lead mines, it has been known, though it does not appear to have ever been mined and utilized as is the case in the United States. Chemically it is merely a variant of the more liquid bitumen, which is by no means uncommon in limestone strata, considerable variation being shown in the elasticity of samples obtained from different districts. A letter to THE INDIA RUBBER WORLD of March 1 says that elaterite is the only hydrocarbon "capable of being treated by a process of destructive distillation prior to being subjected to the action of solvents or mechanically fluxed with any other material." There appears to me a general vagueness about this sentence. I do not agree that elaterite is the only hydrocarbon which can be destructively distilled, but the statement quoted may only apply to some particular process, which is not specified. With regard to the expression "mechanically fluxed" would it not be more correct to say "mixed," or "chemically fluxed," whichever it may happen to be? But scientific details apart, it is decidedly interesting to hear of a use on the large scale for elaterite; this and other bitumen products seem to be more highly in favor in American rubber works than in those of Great Britain, though to judge by the attention which Weber and others gave to the methods for estimating pitch in rubber goods a layman might have thought that it was a common compound of rubber goods. Stearine pitch has of course had a large application under the name of bitite as a cable insulating material, but this has been apart from the rubber goods manufacture.

THERE is nothing of particular novelty to report in this branch, though the firms making the different products seem to be making good progress. This observation

LEATHER SUBSTITUTE BUSINESS.

will not perhaps be endorsed by the shareholders in New Pegamoid, Limited, as the last report was not particularly satisfactory. The upholstering of motor cars has brought a welcome accession of business to firms in this branch, and I understand that a large part of the output of Velvril is used in this connection. It has not, I believe, been previously mentioned in this paper that the Velvril Co., with which the name of Mr. Walter F. Reid has been associated from the first as patentee and shareholder, is now amalgamated with another concern making an analogous article, the firm now being known as The Velvril-Bounaud Co., Limited, of Norfolk road, Ponders End, London. This company own all the Velvril patent rights except that for the manufacture of belting, which was sold some years ago to the Gandy Belt Manufacturing Co., of Seacombe, Cheshire. As velvril

consists essentially of a skeleton of nitro cellulose built up with nitrated castor oil, its composition is unchangeable, and I have seen samples such as the covers of pocket books ten years old and apparently as good as new. It is said, though I do not vouch for the accuracy of the statement, that similar goods consisting mainly of oxidized linseed oil do not exhibit anything like the same wearing power owing to a liability to undergo further chemical change. With regard to the leather substitutes of the purely nitrated cellulose or collodion variety it was thought at first that their manufacture and use would be attended with danger from explosion. Although this does not seem to have been the case, there is always the associated danger that the evaporation of the camphor converts a non explosive nitro compound into a body which is practically identical with gun cotton.

THE London Synthetic Rubber Co. claim to have made decided progress in the way of turning out the material indicated by their title. I have not seen any of the

SYNTHETIC
RUBBER.

product personally, but a friend of mine, who, by the way, knows nothing about rubber, tells me that he has seen a sample, and that it was strong and elastic. It appears that the price of production has so far been too high for business purposes, and that it is recognized that production at a shilling per pound will be necessary for its successful exploitation. A considerable reduction, I am assured, has been effected already, though they are still some way off the shilling cost desired. Meanwhile it is stated that the £100 shares, with £10 paid up, are quoted at £400 each. From another source I gather that Peru is going to knock all other rubbers, natural or synthetic, out of the market when the arrangements now in hand in the upper Amazon valley for the facilitation of freight and the augmentation of labor come to maturity. No date, however, appears to have been fixed for this development. Clearly, if one believes everything he hears, the rubber plantation people may not have everything their own way, after all.

THE "TUNO" GUM SITUATION.

A CONTRACT has been entered into between the government of Nicaragua and R. J. La Villebeuvre, a resident of Managua, giving the latter the exclusive privilege for 20 years of gathering gum from the tree known as "tuno" or "tuno," in the national forests, over the greater portion of the republic. The government is to receive 2 cents (gold) for each kilogram [=about \$20 per ton] of gum extracted, however it may be disposed of. The tree referred to is particularly abundant in the district of Cabo Gracias a Dios. It is similar in appearance to the native rubber tree (*Castilla elastica*) and the product resembles crude rubber, except that it is altogether lacking in resiliency. The United States consul at San Juan del Norte says that while considerable money has been spent in experimenting with the tuno gum in the locality referred to, it has been without practical results hitherto. Shipments have been made from that port from time to time since 1885, but at no time in excess of 5,000 pounds in one year, while prices have fluctuated between 7 and 25 cents per pound. The fact that this concession was sought for and has been granted would indicate that some field of usefulness had finally been discovered for tuno gum.

There is now left no forest rubber in Nicaragua of any kind not subject to some private monopoly. Some details under this head appeared in THE INDIA RUBBER WORLD, March 1, 1908.

A crude rubber importer in New York advises THE INDIA RUBBER WORLD that he is ready to execute orders for tuno gum upon two weeks' notice, and that business was done in this gum during the past month, at about 14 cents a pound. He says that the gum has been in some demand, for friction work, but that a twofold trouble existed—uncertainty in delivery and no fixed standard of quality. Otherwise, he thinks that considerable "tuno" might be taken.

THE OLDEST RUBBER WORKER.

PROBABLY the oldest man at work to-day in a rubber factory is Frank De Frate, who still makes water beds at the Hodgman Rubber Co.'s factories in Tuckahoe, New York. Mr. De Frate, who, by the way, is a grand uncle of the present generation of Hodgmans, has been connected with the company from the time when Daniel Hodgman first began business, 70 years ago, on Broadway, and has followed the Hodgman fortunes ever since. From the factory on Duane street to Lexington avenue and Thirty-third street, and from there to Twenty-sixth street and East river, and then when Daniel Hodgman bought the cotton mill building at Tuckahoe in 1851, and incidentally most of the surrounding country, Mr. De Frate was his right hand man. In those days he was, according to tradition, stronger than any two other men in the factory, and able to do the work of five. He was more or less of a fiery individual, but



FRANK DE FRATE.

[Employed by The Hodgman Rubber Co. since their beginning, and still at work, at 84 years.]

only broke away from the place in which he was tremendously interested on two occasions. Once he went to work for Horace H. Day and remained there just one day. Another time he actually got as far as Ohio, where he furnished a house for himself and had begun to feel at home when Daniel Hodgman dropped in on him, told him he had got to come back as he needed him, and he promptly auctioned off his goods and returned.

At eighty-four, his present age, Mr. De Frate is still active, and his memory of the beginnings of the rubber trade is surprisingly accurate. He is wonderfully proud of the fact that he does his full day's work six days in the week, and although the management of the Hodgman factories have tried to pension him, they are absolutely unable to make him accept a cent that he does not earn, or to keep him away from the factories during working hours.

SINGAPORE appears to be developing a considerable market for automobiles, tires, and accessories, and the latest report is that an automobile journal is being established there. Mention has already been made in THE INDIA RUBBER WORLD of a tire manufacturing plant in Singapore, besides which the "Silvertown," "Continental," and some other leading brands of tires are actively advertised in that market. For example, the well known Harvey Frost vulcanizer, an English production, is being exploited by a well known Singapore commission house.



A STACK OF OLD RUBBER SHOES.

[This illustration represents 1000 tons (2,000,000 pounds) of old rubber shoes collected for reclaiming purposes. A mass three times this size would represent the old rubber shoes collected and now held in continental Europe, exclusive of Russia. A mass six times this size would represent

the amount collected and ready for shipment in Russia. A mass fifteen times this size would represent the amount now collected and unsold in the United States.]

WILL OLD RUBBER SHOES GO HIGHER?

ONLY a short seven months ago old rubber shoes, which are the basis of the reclaiming business, sold for 13½ and even as high as 14 cents per pound. To-day they are selling at 7 cents, and a very interesting situation has resulted. In a word it is this: 'The thousands of small collectors throughout the country, believing that high prices will again rule, having collected hundreds of tons of shoes, are holding them hoping for a return to 13 cent prices. With every wish for the prosperity of this portion of the people interested in rubber reclaiming, THE INDIA RUBBER WORLD is not able to see any statistical basis for such an advance in price.

Of course, the whole situation must be governed by the law of supply and demand. A careful estimate of the amount of old shoes consumed by the twelve leading rubber reclaiming companies in the United States, shows that during the past six months they have used 15,000 tons *less* than for any like period during the past two years. This is due partly to the falling off in the business of general rubber manufacture, but fully as much to the remarkable drop in the price of crude rubber and to the very general introduction of guayule gum. When it is remembered that during the last year there was used 4,000 tons of guayule in American rubber mills, and that each pound displaced at least several pounds of reclaimed rubber, it will at once be evident that in many lines old shoes are not as necessary as they were.

The situation is therefore this: Here in the United States there are now at least 15,000 tons of old shoes held in small lots, with the collection going on at the usual rate. There are in continental Europe, outside of Russia, 3,000 tons that are liable to appear in the market at any time. Beyond this, as no shoes have come from Russia for some months past, there are 5,000 or 6,000 tons that will be thrown upon this market if a rise in price takes place, that is, if business for a year to come should become normal. (It will probably be 30 per cent. less than normal.) It would seem, therefore, with crude rubber lower than it has been for years, with guayule rubber displacing hundreds of tons of reclaimed rubber, with consumption less than normal, and with big stocks of shoes already collected, and collections going on

at the rate of 35,000 tons a year, that there is little hope of higher prices for old shoes.

THE GILBERT-BESAW PROCESS.

SO much of interest has developed in the trade concerning what is known as the Gilbert-Besaw reclaiming process that a brief description of what it is will be timely.

In the first place the process is not patented, but is secret. It is applicable to the recovery of any sort of rubber scrap, whether cured in open steam, in molds, or in dry heat. According to the statement of the inventors no acid, or alkali, or anything that can be in any way injurious is added. The reclaiming—that is, as far as cracking, grinding, and removing iron, brass, and sand. The machinery for treating the waste rubber for the removal of fiber and for devulcanization, however, is individual to the process. The time occupied in devulcanization is about one-quarter that used in existing processes. No residuum or oily matter of any sort is added to the product, either before or after devulcanization. The results of this process, for insulation purposes, in reducing the acetone test, is of itself invaluable.

The American rights are controlled by the New Jersey Rubber Co., at Lambertville, N. J., with the single exception of the Firestone Tire and Rubber Co., who have shop rights. Messrs. Gilbert and Besaw are planning soon to arrange with manufacturers abroad to take over the process.

THE cost of collecting chicle and laying it down at El Carmen, on the gulf coast, in the state of Campeche, Mexico, is stated in the *Boletin de la Asociacion Financiera Internacional* at \$500 (Mexican) per metric ton, and the selling price at that port is about \$1,000 (Mexican) per ton. At current rates of exchange these figures work out at about 11 cents (gold) per pound for cost and 22 cents for the price realized. The *Boletin*, in reporting on some properties near El Carmen on which chicle trees are abundant, intimates that by exporting chicle directly to consuming markets the margin of profit might be increased considerably.

THE ELECTRICAL INDUSTRY.

BUSINESS OF THE GENERAL ELECTRIC CO.

THE sixteenth annual report of the General Electric Co. (Schenectady, New York) for the year ending January 31, 1908, shows: Goods billed to customers during the year, \$70,977,168; orders received, \$59,301,040; profits (after writing off \$3,745,989.06 for depreciation of plants), \$6,586,653.37; dividends paid, \$5,183,614; surplus at the end of the year, \$16,513,836.14. The capital stock issued to date is \$65,513,836.14. In the ten year period ended in January last, sales billed increased from \$12,396,093 to \$70,977,168, an average increase of 19.8 per cent. per year. Sales billed during 1907 increased 18.2 per cent. over the previous year. The gain was in the first half of the year, however, the general depression of business later affecting the company's operations materially. The number of employés declined from 28,000 to 20,000. The company have purchased land at Erie, Pennsylvania, for additional works, instead of increasing the establishment at Schenectady, deeming it wise to have facilities for production farther west. They will not build, however, until business improves. The report emphasizes the increase in the use of electrical apparatus for industrial purposes. [Last year's report in THE INDIA RUBBER WORLD, August 1, 1907—page 354.]

A GERMAN ELECTRICAL JUBILEE.

THE largest German electrical manufacturing company, the Allgemeine Elektricitäts Gesellschaft (General Electric Co.), at Berlin, celebrated on April 20 the twenty-fifth anniversary of its founding. The business was begun in 1883 as the Edison-Gesellschaft with a capital of 5,000,000 marks [= \$1,190,000] primarily to introduce into Germany the Edison incandescent lighting system. The present name was adopted in 1887 and the scope of the company's work has extended until it covers the production of every class of electrical apparatus, including insulated wires and cables. The company have gradually absorbed other concerns in the same field, and in 1903 a community of interests was established with the General Electric Co. of America. The number of employés in Germany alone is 30,700. The factories in Berlin occupy 272,800 square meters [= 2,935,328 square feet] of space. Outside of Germany the company own several factories and maintain 40 agencies. The volume of sales increased from 1,213,000 marks in 1884 to 216,081,000 marks [= \$51,427,278] in 1907. The share capital is now 86,000,000 marks [= \$20,468,000].

ELECTRIC WIRING OF THE "MAURETANIA."

THE electrical equipment of the new British steamer *Mauretania*, the latest addition to the Cunard line, embraces over 200 miles of wires and cables. Power is transmitted from the generators by means of 48 cables, referred to as being of Henley's vulcanized rubber insulated type, covered with asbestos on account of their warm position. They are systematically placed on porcelain insulators and protected with steel plating in both engine and boiler spaces. Where passing through bulkheads and decks the cables are fitted in watertight glands with fiber packings. Rubber insulated wire in wood casing is employed beyond the auxiliary boards, with a view to facilitating alterations and extensions, and great pains has been taken to conceal the wiring.

THE COTTON SITUATION.

THE London *Economist* reports that cotton weaving in Great Britain was in a poor way at the beginning of the year, and matters have gone from bad to worse, particularly on account of the declining demand from India. It was estimated recently that 15 per cent. of the weaving machinery in Lancashire was idle, with 30,000 operatives unemployed. The exports of cotton

piece goods amounted to 1,508,120,600 yards for the first three months of this year against 1,639,018,700 yards for the first three months of 1906. The British exports of cotton yarn, however, for the first quarter of 1908 were larger—that is, 62,030,400 pounds, compared with 55,108,700 pounds for the first quarter of 1906. New mills are in erection to contain 4,000,000 spindles, and the *Economist* says it looks as if there will be too much yarn on the market for the looms.

* * *

At the recent West Indian Agricultural Conference, in Barbados, considerable attention was devoted to the increase in cotton culture in the West Indies. It is estimated that there are now more than 24,000 acres under cotton, of which 20,000 are planted to Sea Island cotton, which has proved very successful as to quality of the product and is becoming profitable. The West Indian export of cotton increased from 328,530 pounds in 1902 to 2,013,698 pounds in the first nine months of 1907, the value of lint and seed in the latter period reaching £186,510 [= \$907,650.92]. The opinion prevailed that the production of West Indian Sea Island cotton will yet prove of great importance to the cotton industry of England.

RUBBER INDUSTRY IN NEW JERSEY.

THE rubber industry in New Jersey is reported in considerable detail from time to time in the yearly reports of the bureau of statistics of labor and industries of that state, the latest of which covers the statistics for the calendar year 1906. For the purpose of illustrating the growth which has been made in the industry within a few years past it may be of interest to contrast the latest figures with those reported for the year 1899, as follows:

	1899.	1906.
Establishments reporting	33	38
Number of private firms	2	4
Number of partners	4	9
Number of corporations	31	34
Number of shareholders	356	4,937
Total capital employed	\$6,700,548	\$13,143,208
Value materials used	\$8,205,344	\$15,840,571
Value of goods made	\$12,441,906	\$22,824,737
Total wages paid	\$1,739,918	\$3,075,239
Average number employés	4,034	6,280
Average yearly earnings	\$431.31	\$489.76
Average days operated	280.27	298.28
Proportion business to capacity	81.97%	84.34%

The establishments reported on above embrace manufacturers of hard rubber and soft rubber, and also rubber reclaimers, which are not, in the truest sense, rubber manufacturers. At the same time, it is to be inferred that they do not embrace certain concerns where rubber goods are not the most important product, though in the aggregate their rubber production is large. Such concerns, for example, would be the John A. Roebling's Sons Co. (Trenton), insulated wire manufacturers, and the Joseph Dixon Crucible Co. (Jersey City), pencil manufacturers. For various reasons it is practically impossible at any time, in any state, to ascertain accurately the statistics for any industry; there are difficulties in the matter of classification, disinclination on the part of manufacturers to supply figures (which are not forced to do), and so on.

The figures given above are of value, none the less, because the concerns referred to have reported year after year on blanks of the same character, and the table shows how their volume of trade has developed.

RUBBER substitutes figure for the first time in the work of the United States census in the report for 1905. According to Bulletin 92 of that census the production of such substitutes in this country amounted to 254,892 pounds, of the value of \$63,724, or an average of about 25 cents a pound.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED APRIL 7, 1908.

No. 883,763. Tire for vehicle wheels [Solid; held in place by detachable flanges.] J. E. Tourtellotte, Hartford, Conn.
 883,814. Air brake hose coupling. J. E. La Rocque, Nominique, Quebec.
 883,941. Hose coupling. M. P. Eagan, Newport, R. I.
 884,159. Dental plate. E. A. Jackman, Hartington, Neb.
 884,187. Hose coupling. A. A. Minorsky, Wilkinsburg, Pa.
 884,294. Tire sealing device. G. H. Phillips, assignor of one-half to G. F. Soule, both of Plymouth, Mass.

Reissue.

12,777. Vehicle wheel rim. F. A. Seiberling, Akron, Ohio.

Trade Marks.

32,592. National India Rubber Co., Bristol, R. I. The representation of an electric cable. For insulated wires.
 32,951. Manufacturers' Supplies Co., Philadelphia. The word *Velox*. For rubber tires.
 32,915. Corn Products Refining Co., New York city. The word *Royal*. For corn oil.

ISSUED APRIL 14, 1908.

884,456. Insulating compound. N. Booth, assignor to Banner Rock Products Co., all of Alexandria, Ind.
 884,461. Hose coupling. C. F. Browne, Washington, D. C.
 884,561. Automatic hose uncoupling. [For air brake hose.] W. S. Bowness, Moncton, New Brunswick.
 884,526. Tire construction. [Pneumatic tire tread.] F. A. Bragg, assignor of one-half to D. J. Brown, both of Springfield, Mass.
 884,634. Hose [with wrapping strip of knitted fabric]. H. T. Bragg, Yonkers, N. Y.

884,702. Tire and wheel therefor. W. Bowden, New York city.

884,794. Protecting casing for tire. L. N. Cates, St. Louis.

Trade Marks.

28,843. The Cravenette Co., Ltd., Bradford, England. The word *Cravenette*, in a straight line border. For parasols and umbrellas.
 29,062. The Fairbanks Co., New York city. A red disk. For rubber belting.
 30,958. J. F. Grosswiller, Toledo, Ohio. The word *Noxall*. For rubber hose, belting, and packing.
 32,606. A. E. Little & Co., Lynn, Mass. The word *Sorosis* in a circle. For rubber heels.
 33,039. National India Rubber Co., Bristol, R. I. The word *Colonial*. For water bottles and syringe bags.
 33,076. Gorham Rubber Co., San Francisco. The word *Fearless*. For rubber boots.
 33,206. India Refining Co., Philadelphia. The word *Parasub*. For an oil compound.

ISSUED APRIL 21, 1908.

885,062. Reinforced pneumatic tire. H. D. B. Lefferts, Orange, assignor of one-half to E. De Camp, Newark, N. J.
 885,219. Fabric. E. D. C. Bayne and L. A. Subers, Cleveland, Ohio.
 885,220. Machine for winding and placing under pressure a thread coated with non-fibrous and adhesive material. *Same*.
 885,336. Tire cushion for vehicles. W. E. Garvey, Cleveland, Ohio.
 885,515. Tire protector. H. Parsons, Southampton, England.
 885,530. Dress preserver or dress shield. G. H. Sachsenröder, Barmen, Unterharmen, Germany.
 885,628. Heelless overshoe. P. H. Margulis, New York city.
 885,646. Vehicle tire. M. B. Priest, Milwaukee, Wis., assignor to The Priest Tire Co.
 885,647. Pneumatic vehicle tire. *Same*.

Trade Marks.

27,954. Hannoversche Gummi-Kamm Co., A.-G., Hanover, Germany. The word *Koh-i-noor*. For rubber combs.
 32,541. Lambertville Rubber Co., Lambertville, N. J. The words *Oyster Boy* over the representation of a small figure seated in an oyster shell. For rubber footwear.

ISSUED APRIL 28, 1908.

885,796. Pneumatic and other tires. H. C. Shearman, Providence, R. I.
 885,797. Apparatus for capping hose sections. S. J. Sill, assignor of one-half to H. H. Hewitt, both of Buffalo, N. Y.
 885,860. Resilient vehicle tire. H. A. Palmer, Akron.
 885,862. Cementing apparatus. W. J. Steele, assignor to C. W. Phipps, both of Northampton, England.
 885,888. Concave vehicle tire. A. G. Thomson, San Francisco.
 885,922. Telephone system for fire hose. H. Growsith, Philadelphia.
 885,955. Manufacture of conveyer belting and machine belting. F. Reddaway, Pendleton, England.
 885,960. Vehicle wheel rim. E. C. Shaw, Akron, Ohio, assignor to The B. F. Goodrich Co.
 886,272. Rim for motor car wheels. D. C. Smith and W. F. Gerton, Muncie, Ind.
 886,272. Hose nozzle. S. Suzuki, Ogden, Utah.
 886,273. Suction device for securing glasses in place. J. J. Tansey, assignor of one-half to G. Ulrich, both of Hartford, Conn.
 886,300. Dental vulcanizer. F. W. Kerb and W. F. Hieber, assignors to The United States Dental Mfg. Co., all of Cleveland, Ohio.

886,316. Valve for tires. J. S. Dunn, assignor of one-third to S. T. Langdon, Jr., both of Vincennes, Ind., and one-third to L. C. Langdon, Oak Park, Ill.

Trade Marks.

6,082. The Safety Insulated Wire and Cable Co., New York city. The representation of an insulated cable. For covered electrical conductors.
 28,842. The Cravenette Co., Ltd., Bradford, England. The word *Cravenette*, in a straight line border. For waterproof tents and the like.
 33,351. Gorham Rubber Co., San Francisco. The word *Olympic*. For rubber hose.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1908 and 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 1, 1908.]
 27,654 (1906). Protective band for elastic tire. T. E. Doyle and J. H. Ryan, Dublin.
 27,661 (1906). Tire rim with removable flange. Prideaux-Brunne, Bideford.
 27,800 (1906). Fastening for pneumatic tire. M. Marcille, Paris, France.
 28,051 (1906). Metal disk wheels adapted to carry pneumatic tires. H. H. Perkins, Stourbridge.
 28,085 (1906). Golf ball with gutta-percha core, wound with tensioned vulcanized thread. E. W. Thurlow, Northcote, Victoria, Australia.
 28,142 (1906). Means for preventing side slip in motor vehicles. P. E. Doolittle, Toronto, Canada.
 28,256 (1906). Removal of water of condensation from the cores of steam heated tire molds. F. Veith, Höchst im Odenwald, Germany.
 28,302 (1906). Woven fabric tire inner tubes, to be coated with rubber and vulcanized. D. W. Yates and two others, Radcliffe, Lancs.
 28,331 (1906). Method of joining edges of rubber sheets for water bottles and the like. J. B. Brooks, Birmingham.
 28,330 (1906). Pressure gage for tire inflating pumps. S. W. Amphlett and A. Roberts, Birmingham.
 28,346 (1906). Corrugation of pneumatic tire treads. A. B. Brown, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 8, 1908.]
 28,425 (1906). Covers for footballs and the like, built up of sections of fabric coated with rubber. J. Turner and A. Buxton, Manchester.
 28,428 (1906). Golf ball filled with small rubber balls or pellets. J. H. Roger, Glasgow.
 28,436 (1906). Pneumatic tire without an inner tube. C. F. Newman, Twickenham.
 28,451 (1906). Stopper for hot water bottles. J. B. Brooks, Birmingham.
 28,469 (1906). Metallic protectors for tires. C. P. Doykin, Birmingham.
 28,494 (1906). Guard ring for buckets used in breweries. G. Kappler, Zürich, Switzerland.
 28,584 (1906). Detachable rim for pneumatic tires. A. Armitage, Taunton, and two others.
 28,597 (1906). Twin tire construction with chain ring to prevent slipping. E. G. Gosset-Tanner and R. T. Beane, London.
 28,625 (1906). Tire construction of fabric with or without rubber. J. Fenton and J. R. Tetlow, Cleckheaton.
 28,747 (1906). Spring wheel with pneumatic hub and elastic tire. L. A. Garchey, Paris, France.
 28,747A (1906). Spring wheel with elastic tire. *Same*.
 28,785 (1906). Spring wheel with tread resting upon a pneumatic tube. J. and A. Burfoot, Auckland, New Zealand.
 *28,913 (1906). Water tank with rubber ball valve. C. Willms, Baltimore, Maryland.
 28,989 (1906). Spring wheel. A. Kenrick, Tunbridge Wells.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 15, 1908.]
 29,152 (1906). Tire with composition core. A. and D. Fagioli, Southampton.

29,177 (1906). Tire puncture closing device. A. J. Maffuniabes, London.
 29,206 (1906). Puncture preventing band for tires. B. Noldner, Breslau, Germany.
 29,256 (1906). Nozzle for vaginal syringes. H. A. Kaysan, Cassel, Germany.
 29,264 (1906). Tire puncture protector. J. Lenderyou, London.
 29,267 (1906). Rim for pneumatic tires. J. H. Patterson, Aberdeen.
 29,376 (1906). Detachable tread for pneumatic tires. H. A. Vouriot, Paris, France.
 29,387 (1906). Cementing apparatus for work in bootmaking. A. Parsons, Newtown, Leeds, and three others.
 29,393 (1906). Brake for pneumatic tires. A. W. Slater, London.
 *29,426 (1906). Vulcanizing apparatus for pneumatic tires. T. Midgley, Hartford, Connecticut.
 29,492 (1906). Tire with composition core. R. R. Gubbins, London.
 29,537 (1906). Combination tire formed of spiral springs and rubber. L. Pesqualis, Rome, Italy.
 29,554 (1906). Rubber stopper. Soc. Chimique des Usines du Rhône, Paris, France.

29,574 (1906). Anti slipping attachment for wheels. J. R. Hamilton, Cheshunt, Herts.
 29,643 (1906). Spring wheel with elastic tire. J. Alloatti, Royat, France.
 29,651 (1906). Pneumatic tire. A. H. Vévenoge, Deauville-sur-Mer, France.
 29,684 (1906). Mold for pneumatic tire covers. E. A. Slater, Glasgow, and O. Ransford, Rutherford.
 29,739 (1906). Elastic tire formed of coiled springs within a rubber cover. A. Vandervort, Belleville, Ontario.
 29,769 (1906). Detachable rim for tires. J. Frankel, Paris, France, and another.
 [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, APRIL 23, 1908.]
 1 (1907). Auxiliary wheel to prevent side slip. B. Dolby, Catford.
 4 (1907). Cushion tire for vehicles. E. L. A. Olivier, Paris, France.
 44 (1907). Pneumatic tire cover. G. R. A. Fluery, Paris, France.
 59 (1907). Protective cover for tires. H. F. Villard, Biarritz, France, and another.
 62 (1907). Elastic tire composed of bent sticks of cane, within a rubber cover. R. V. Wagner, London.
 166 (1907). Anti slipping device for tires. J. Briggs, Bradford.
 183 (1907). Vehicle wheel with pneumatic hub. B. H. Sills, Belleville, Canada, and two others.
 185 (1907). Spring wheel with rubber tire. C. Holt, London, and two others.
 247 (1907). Tire covers woven from duck yarns designed to prevent stretching. F. Reddaway, Manchester.
 253 (1908). Metal plates to prevent tire slip. A. Jennings, King's Heath.
 306 (1907). Tire tread of alternating rubber and leather segments. J. Bowack and F. R. Quilter, London.

THE FRENCH REPUBLIC.

Patents Issued (With Dates of Application).

381,926 (Sept. 16, 1907). C. Motz. Solid rubber wheel tire.
 381,934 (Sept. 16). W. E. Rowcliffe. Pneumatic tire and rim therefor.
 381,972 (Sept. 18). F. C. Wickel. Elastic motor car tire.
 381,845 (Aug. 24). L. R. Chauvin. Process for the manufacture of artificial teeth.
 382,068 (Sept. 2). A. Ungerer. Tire protector.
 382,154 (Sept. 23). A. Braido. Composition for tire repairs.
 382,053 (Nov. 28, 1906). J. Dupont. Rubber reclaiming process.
 382,108 (Sept. 20, 1907). Morerette. Mechanical process for the extraction of rubber.
 382,272 (Dec. 3, 1906). Lesage. Elastic material, suited particularly for vehicle tires.
 382,086 (Sept. 14, 1907). E. Servant. Braces for pneumatic tires.
 382,054 (Nov. 28, 1906). C. E. H. Gaville. Balloon.
 382,320 (Sept. 9, 1907). T. Sloper. Apparatus for tire manufacture.
 382,400 (Sept. 28). H. Talasso. Elastic wheel.
 382,425 (Sept. 30). L. Laias. Pneumatic tire cover.
 382,569 (Oct. 1). L. A. Noel. Elastic tire.
 382,571 (Oct. 4). Worms and Flamant. Process for the separation of resins from the latex of caoutchouc.
 382,626 (Oct. 5). J. L. Finot. Pneumatic tire.
 382,800 (Aug. 22). Hawley and Baker. Pneumatic tire.
 382,823 (Oct. 5). E. Herkner. Pneumatic tire.
 382,612 (Oct. 5). Montegut and d'Etreillis. Elastic tissues for garments.
 382,948 (Oct. 16). Kempshall Tyre Co. of Europe, Ltd. Wheel tire.
 383,127 (Oct. 19). L. A. Noel. Elastic wheel.
 383,149 (Oct. 19). Schwarz and Schmidt. Protective tread for tires.
 383,223 (Oct. 23). B. V. Wittenberg. Pneumatic tire.
 383,218 (Dec. 29, 1906). M. Malzac and D. Lance. Combination of leather and caoutchouc.
 383,315 (Oct. 2, 1907). C. Revillard. Pneumatic tire.
 383,347 (Oct. 26). A. T. Hughes. Protective tread for tires.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bébet, Ingénieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

A ROYAL APPLICANT FOR A PATENT.

PRINCE HENRY of Prussia, whose interest in automobileing is a matter of common knowledge, is referred to as a recent applicant for a patent on a device to keep mud and moisture from obstructing the view through glass wind shields. The apparatus is simple, consisting of two arms equipped with rubber edges. The arms are fastened on pivots on either side of the wind shield. A handle is located within convenient reach of the driver, and by turning this handle the rubber edges are moved over the glass, somewhat in the manner that window washers employ when using a similar device on large store windows.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statements of values of exports of manufactures of india-rubber and gutta-percha for March, 1908, and for the first nine months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	BELTING, PACKING, AND HOSE.	BOOTS AND SHOES.	ALL OTHER RUBBER.	TOTAL.
March, 1908.....	\$116,400	\$37,613	\$317,064	\$471,077
July-February	924,585	1,305,352	2,485,307	4,715,244
Total	\$1,040,985	\$1,342,965	\$2,802,371	\$5,186,321
Total, 1906-07	914,276	902,904	2,664,967	4,542,207
Total, 1905-06	942,654	1,340,602	2,125,551	4,408,807
Total, 1904-05	670,551	1,062,751	1,831,748	3,565,030
Total, 1903-04	667,567	946,439	1,790,522	3,410,528

ITALIAN IMPORTS.

THE imports of rubber goods into Italy in 1906, according to the United States consul at Milan, amounted in value to \$2,192,538, against \$1,707,066 in 1905. During the first 11 months of 1907 such imports amounted to \$2,640,421, not including 126,000 pairs of rubber footwear of the value of \$132,533. The bulk of the footwear came from the United States and Germany, each country exporting about the same quantity. The consul reports that the manufacture of rubber shoes has lately been established at Milan.

TARIFFS AND COMMERCIAL TREATIES.

THE new Venezuelan customs tariff, promulgated on January 13, 1908, enumerates a number of items of rubber goods. The items chargeable at 75 centimes per kilogram [= \$6.56 per 100 pounds] for rubber hose and belting and rubber tired wheels. For the following goods the rate is 2.50 bolivars per kilogram [= \$21.87 per 100 pounds]: Rubber girdles, shoe elastics, galoshes, and rubber goods generally. The rate on elastic webbing, whatever the character of the fabric involved, is 5 bolivars per kilogram [= \$43.74 per 100 pounds].

A new commercial treaty between Canada and France provides for the admission into the latter country, or into any of its colonies, of certain Canadian products under the minimum French tariff. The articles listed comprise all manufactures of india-rubber.

HISTORY OF GOLF BALL MARKING.

ROBERT SIMPSON, a Western golf champion, tells the *Omaha World-Herald* how golf balls came to have marked surfaces, instead of being perfectly smooth, as when the balls were first made of gutta-percha. Then, he says, it was impossible to make a perfectly straight shot. The caddies on St. Andrews and Carnoustie links, Scotland, where Simpson learned the game, began to bat the balls around, of course, and in a short time they became considerably maimed and chopped up. The caddies soon discovered that these old balls, cast off by the aristocrats and experts, after having been sufficiently abused, would carry farther and truer than the new ones.

This fact became known to the professionals, who began to deliberately hack the balls with chisels and hatchets before using them, with good results. Soon afterward the manufacturers recognized the importance of this idea and began to mold balls with the corrugations. Hence the present day article, which has been driven 300 yards on the course.

SEVERAL specimens of rubber from the climbing plant *Cryptosigia grandiflora*, sent from India to the Imperial Institute, in London, for examination, were reported to exhibit very fair elasticity and tenacity. This plant is reported to be very abundant, especially in the presidency of Bombay.

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OFFICERS AND DIRECTORS OF THE UNITED STATES RUBBER COMPANY.

1—Samuel P. Colt (president), 2—E. C. Benedict, 3—Lester Leland (second vice president), 4—John J. Watson, Jr. (treasurer), 5—Anthony N. Brady, 6—James B. Ford (first vice president), 7—Walter S. Ballou, 8—Homer E. Sawyer (general manager), 9—Charles H. Dale, 10—John D. Vermeule, 11—Frederick M. Shepard, 12—Henry L. Hotchkiss, 13—Francis Lynde Stetson, 14—Frank S. Hastings, 15—Harry E. Converse, 16—J. Howard Ford, 17—John D. Carberry (assistant secretary), 18—Samuel Norris (secretary), 19—Arthur L. Kelley, 20—W. G. Parsons (assistant treasurer), 21—Francis L. Hine, 22—W. H. Truesdale.

United States Rubber Co.'s Annual.

THE sixteenth annual meeting of shareholders of the United States Rubber Co., incorporated under the laws of New Jersey, was held at the registered offices of the company in that state, at New Brunswick, on May 19. The operations of the company during the last business year and its condition at the close of the year, are indicated in the annual reports of officers, as read and approved, and which are presented here.

PRESIDENT'S ANNUAL REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: It is a source of satisfaction that, in spite of the great business depression throughout the country, the business of our company compares as favorably as it does with that of the previous year—the largest in its history, especially as due consideration is to be given to the fact that our fiscal year ends March 31, thus including six months largely affected by the financial depression. For the first six months—April to September, 1907—the business was largely in excess of the corresponding period for the previous year.

The treasurer's report, which follows, gives the result of the operations of the company and its subsidiary companies for the fiscal year, and shows their condition at the close of the year.

It has been the policy of the management to conduct the business of the company in the most conservative manner, and in all its departments and branches there have been introduced rigid economies, bringing about in the manufacturing and selling organizations consolidations which assure better results in the future, while preserving the efficiency of our organization and maintaining the high standard of the quality of our goods.

The funding notes of the company, which matured March 15, 1908, were provided for by the sale of a new issue of like notes for the same amount, payable September 15, 1909.

Arrangements have been made for payment of the issue of \$4,800,000 of debenture bonds of the Boston Rubber Shoe Co., which matures August 1, 1908, through the sale of a new issue of \$4,500,000 of similar debenture bonds, payable September 15, 1910, the balance to be provided for by cash in the treasury.

The net profits of the United States Rubber Co. for the past year, not including the company's proportion of surplus earnings of some of its subsidiary companies not actually received in dividends, are \$3,553,556.14, which are considered satisfactory, in view of the manufacturing and selling conditions which have existed during the year, and taking into account the conservative prices at which materials on hand have been inventoried in our balance sheet of March 31, 1908.

The company did not advance the selling price of its manufactured goods in comparison with the abnormally high price of crude rubber which prevailed early in the year, and the lower price now prevailing for this important item in the cost of our goods should enable the company to receive a larger, yet reasonable, profit on its product for the coming year, as our selling prices remain unchanged.

The company has paid the regular 2 per cent. quarterly dividends on its first preferred stock, and 1½ per cent. quarterly dividends on its second preferred stock.

Important changes have been made in the conduct of our export business, which, while materially reducing the expense in the operation of this department, should tend to satisfactory results.

The business of the Rubber Goods Manufacturing Co. held up remarkably well during the calendar year of 1907. The net results obtained, considering the general trade conditions during the latter part of the year, are all that could reasonably be expected.

The promptness, with which the entire business of the com-

pany was adjusted to the change from the favorable conditions of the first six months of our fiscal year to the unfavorable and difficult conditions prevailing during the last six months, reflects credit on the individual effort of all who are in responsible positions in our various departments and subsidiary companies, and, coupled with the fact that we have kept our mills in every way in excellent physical condition, warrants us in anticipating that, with a return of general prosperity, we may look for improved results. Respectfully submitted,

SAMUEL P. COLT, President.
New Brunswick, New Jersey, May 19, 1908.

TREASURER'S REPORT.

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES, CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1908.

[Not including Assets or Liabilities of the Rubber Goods Manufacturing Co., or of its subsidiary companies.]

ASSETS.

Property and plants (including shares of R. G. M. Co.)	\$74,734,539.77
Inventories, manufactured goods and materials	\$13,533,169.81
Cash	2,723,380.75
Bills and loans receivable	994,250.84
Accounts receivable	8,494,234.66
Securities owned	8,174,730.24
Miscellaneous assets	612,720.57
<i>Total Assets,</i>	<i>\$109,267,026.64</i>

LIABILITIES.

Capital stock, first preferred	\$36,263,000.00
Capital stock, second preferred	9,965,000.00
Capital stock, common	25,000,000.00
Boston Rubber Shoe Co., debentures	\$71,228,000.00
United States Rubber Co., Funding Notes	4,800,000.00
Loans and notes payable	8,000,000.00
Merchandise accounts payable	\$2,440,077.55
Due General Rubber Co.	362,634.55
<i>Total Liabilities</i>	<i>7,164,111.61</i>
Deferred liabilities	8,134,849.37
Reserve for dividends	6,184,814.58
Fixed surpluses (subsidiary companies)	77,803.98
Surplus	874,735.00

Total Liabilities \$109,267,026.64

[The contingent liability for certain guarantees, which are offset by corresponding contingent assets, are not included.]

CONSOLIDATED INCOME STATEMENT FOR YEAR ENDING MARCH 31, 1908.

Gross Sales, Boots and shoes and miscellaneous	\$62,606,105.54
Net Sales, Boots and shoes and miscellaneous	\$41,860,425.96
Cost of goods sold	35,462,394.29

Manufacturing profits	\$6,398,031.67
Freight, taxes, insurance, general and selling expenses	1,913,127.41

Operating profits	\$4,484,904.26
Rubber Goods Mfg. Co. dividends	\$890,733.00
Other income	178,037.84

Total income	\$5,553,675.10
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Interest and commission on funding notes and borrowed money	\$1,320,587.14
Interest on Boston Rubber Shoe Co. debentures	240,000.00
Interest allowed customers for pre-payments	297,480.78

Net income to surplus	\$3,695,607.18
Deduction for bad debts, etc.	142,051.04

Net profits	\$3,553,556.14
Dividends	3,495,448.00
Surplus for period.....	\$58,108.14
Surplus April 1, 1907.....	6,126,706.44
Surplus March 31, 1908.....	\$6,184,814.58

JOHN J. WATSON, JR., Treasurer.

The accounts are verified by the company's auditors, Haskells & Sells, certified public accountants, who find that the quick assets of the company, on March 31, 1908, exceeded all the liabilities other than capital stock and surplus accounts to the extent of \$12,066,403.61.

THE ANNUAL ELECTION.

THE board of directors, nineteen members, was reelected. The list is as follows, together with the number of terms for which each member of the board has been chosen:

Walter S. Ballou, Providence, Rhode Island. [6.]
 Elias C. Benedict, No. 80 Broadway, New York. [7.]
 Anthony N. Brady, No. 54 Wall street, New York. [5.]
 Samuel P. Colt, Bristol, Rhode Island. [17.]
 Harry E. Converse, Boston, Massachusetts. [11.]
 Charles H. Dale, No. 16 Warren street, New York. [3.]
 James B. Ford, No. 42 Broadway, New York. [17.]
 J. Howard Ford, No. 42 Broadway, New York. [17.]
 Frank S. Hastings, No. 80 Broadway, New York. [4.]
 Francis L. Hine, No. 2 Wall street, New York. [6.]
 Henry L. Hotchkiss, New Haven, Connecticut. [17.]
 Arthur L. Kelley, Providence, Rhode Island. [3.]
 Lester Leland, Boston, Massachusetts. [10.]
 Homer E. Sawyer, No. 42 Broadway, New York. [3.]
 Frederick M. Shepard, No. 787 Broadway, New York. [17.]
 Francis Lynde Stetson, No. 15 Broad street, New York. [7.]
 William H. Truesdale, No. 26 Exchange place, New York. [4.]
 John D. Vermeule, No. 503 Broadway, New York. [12.]
 John J. Watson, Jr., No. 42 Broadway, New York. [4.]

The newly elected board met in New York on May 24 and after organizing reelected the following officers and executive committee:

President—SAMUEL P. COLT.
 First Vice President—JAMES B. FORD.
 Second Vice President—LESTER LELAND.
 General Manager—HOMER E. SAWYER.
 Treasurer—JOHN J. WATSON, JR.
 Assistant Treasurer—W. G. PARSONS.

Secretary—SAMUEL NORRIS.

Assistant Secretary—JOHN D. CARBERRY.

The executive committee consists of Samuel P. Colt, James B. Ford, Lester Leland, E. C. Benedict, Walter S. Ballou, Anthony N. Brady, and John J. Watson, Jr.

A MATTER OF HISTORY.

THE following table, showing the amount of net profits of the United States Rubber Co. and the amounts disbursed in dividends since the organization of the company, has been compiled from the printed reports of the successive treasurers of the corporation:

YEAR ENDING	Net Profits.	Dividends.
March 31, 1893.....	{ [Not published.]	
March 31, 1894.....	\$2,716,370.00	\$2,056,190.00
March 31, 1895.....	2,339,790.60	1,552,040.00
March 31, 1896.....	1,999,611.34	1,552,040.00
March 31, 1897.....	2,070,750.41	1,552,040.00
March 31, 1898.....	3,226,513.46	1,882,040.00
March 31, 1899.....	3,007,887.54	2,828,680.00
March 31, 1900.....	62,605.57	705,765.00
March 31, 1901.....	deficit	none
March 31, 1902.....	1,594,908.16	none
March 31, 1903.....	1,575,641.29	none
March 31, 1904.....	3,761,922.63	1,882,040.00
March 31, 1905.....	3,881,270.23	2,846,092.00
March 31, 1906.....	4,590,382.72	3,485,956.00
March 31, 1907.....	3,553,556.14	3,495,448.00

The net profits reported above, prior to March 31, 1902, are for the United States Rubber Co. alone, in its distinct corporate capacity. In the year in which a deficit occurred, in the accounts of the parent company, it is understood that in the aggregate the business of the subsidiary companies would have shown a surplus. For the subsequent years the figures are derived from con-

solidated reports of the "United States Rubber Co. and Subsidiary Companies," covering their total income, but not including details for the Rubber Goods Manufacturing Co.'s transactions further than the dividends from the latter accruing to the United States Rubber Co. during the last three years. The dividends paid in 1900-01 were declared in the first half of the year, when the condition of the company appeared better than later proved true, the net result being a reduction of the surplus.

UNITED STATES RUBBER CO.'S NEW BOSTON OFFICES.

The Boston offices of the United States Rubber Co. and the Boston Rubber Shoe Co. have been most desirably located for several years past in the Converse building, at No. 101 Milk street, except that this is quite a distance from the shoe trade center. With the idea of getting into the shoe district the offices of these two companies have been moved to No. 140 Essex street, corner of Columbia. These new offices are not only more conveniently situated for easy access by rubber jobbers, but they are an improvement in other respects over any offices the companies named have hitherto had in Boston. They occupy the entire ground floor and the basement. The ground floor, about 65 x 100 feet, is practically one large room, being partitioned off into various departments only by a railing. A wide aisle runs from the center door almost the entire length of the building. The first space at the left of the rail—about 25 x 65 feet—is given over to the selling department, and is occupied by Messrs. Coe, Jones, Wilson, Balderston, Phipps, Stevens, Palmer and Hill. Back of this division the American Rubber Co. have the sales office of their clothing department, in charge of Mr. Eustis and Mr. Gillett. H. E. Sawyer, general manager, Edward R. Rice, manager of sales, are also provided with desks for use on the occasion of their frequent visits to the Boston office. The most interesting feature of the new office, however, is the space immediately to the right of the entrance, which is devoted exclusively to convenience of the jobbers. It is furnished with desks, conference tables, comfortable chairs, telephone facilities, and the like, for the use of visiting customers. Back of the customers' room, at the right of the main aisle, are private conference rooms, and back of these is probably the finest rubber sample room in the United States, 25 x 36 feet in size.

COLCHESTER RUBBER PLANT BURNED.

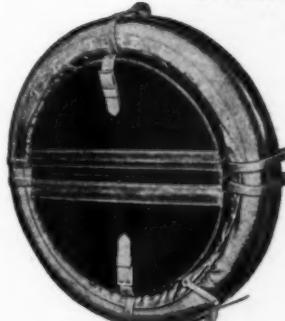
A FIRE at Colchester, Connecticut, on the night of May 13, destroyed a factory property owned by the United States Rubber Co., which, though unused of late, was of no little historic interest. In the spring of 1847 the rubber shoe manufacture carried on by Nathaniel Hayward on a small scale at Lisbon, Conn., was transferred to a joint stock company just formed, under the name Hayward Rubber Co., which removed the business to Colchester, and in that year the first of the buildings just burned was erected. Included in the company were Mr. Hayward, Henry Burr, and William A. Buckingham, all of whom attained prominence in the trade, besides which Buckingham, for nearly 40 years treasurer of the company, served ably as governor of Connecticut and later as United States senator. The Hayward Rubber Co. were licensees under Goodyear's patents, and long ranked among the most important rubber foot-wear concerns.

The plant was taken over by the Colchester Rubber Co., organized by George Watkinson and incorporated in April, 1888, after which a larger business was done for a while than in the best days of the Hayward company. The Colchester company became affiliated with the United States Rubber Co. in August, 1893, and a year later the machinery was removed to other factories.

The Editor of THE INDIA RUBBER WORLD was at one time manager of another factory of the Hayward Rubber Co., at Bozrahville, Conn., and later assistant superintendent at the Colchester factory.

New Rubber Goods in the Market.

AUTOMOBILE TRUNKS.



AUTO HAT TRUNK.

of trunks and such like goods has brought out a line of automobile trunks, several of which are illustrated on this page. The first is a trunk for hats. This is designed to fit inside the extra tire shoes carried usually on the running board of the car. It is made full size of inside space, and



LIMOUSINE TRUNK.



AUTO LUNCH TRUNK.
so arranged as to carry ladies' or men's hats. Or it may be made plain for carrying inner tubes. This trunk comes in various grades, from \$12 up. The next article illustrated is a trunk made to go on top of limousine bodies of automobiles, and is so constructed as to hold two shoes, with a space in the centre for extra tubes and the like. Trunks of this style are made of various materials, the most popular being

black enamel waterproof dashboard leather, hand sewed; also, of black enamel waterproof material, as used in buggy tops. The tire lunch trunk is shown in the last, and smallest, illustration. The waste space inside the tires usually carried on the running board has been utilized by making two trunks, each one-half the diameter, one above the other, arranged for carrying all the articles necessary for a substantial lunch by the roadside. These trunks can be used plain, without any fittings for lunches if desired. [W. W. Winship, No. 71 Summer street, Boston.]

THE "PEN-O-FIL."

A RECENT patent relates to a device which is referred to as making "any pen a fountain pen in a second." The illustration shows an ordinary steel pen over which has been slipped a small piece of rubber, cut in a special shape, thus forming a reservoir for ink. The object of its use is to enable the user to write a number of lines—say any ordinary letter—with one dip of ink, thus lessening greatly the number of times one must go to the ink well. Another advantage is that it prevents ink sediment or hairs clotting the pen, and the blotting of papers from frequent dipping. [The Pen-O-Fil Co., No. 265 Broadway, New York.]



THE "PEN-O-FIL."

THE "UNBREAKABLE DEVIL."

A new form of outdoor sport which from every indication will become extremely popular in the United States this summer has had different names applied to it by the various manufacturers of the devices employed in it. One name, for instance, is "Diabolo," but the illustrations on this page relate to an outfit called by the manufacturer "L'Incassable," or "The unbreakable devil," the French word employed meaning unbreakable. L'Incassable consists of two half spools, connected by a brass shaft 2 inches long, automatically timed and so devised that with the end screws it forms one draft all the way through the spool, with the center groove absolutely in the center, the spool thus being exactly balanced as well as being unbreakable. The sectional cut herewith indicates how the rubber tires used fit the spool. When the space is dropped the rubber protects both the spool and the object on which it falls, besides which the game is rendered practically noiseless. If preferred, L'Incassable spools, instead of having tires as shown here, may be had with rubber capped ends. There are also required for the game a pair of bamboo sticks joined by a cord. The player first gets the spool in motion—"spinning"—on the cord, while holding the sticks at a convenient height, until



"L'INCASSABLE" ACTION.

the proper speed has been attained, when it is thrown into the air. An illustration here shows the player catching the spool as it comes down. If she catches it, and it is spinning rapidly, it may be thrown into the air and caught again, time after time. When players have become experts they may play with partners. [French-American Toy and Novelty Co., No. 464 West Broadway, New York.]

STEEL ARMORED AIR BRAKE HOSE.

THERE has been illustrated already in these pages a view of steel armor for rubber hose, constructed under a comparatively new process. The smaller of the two cuts herewith is given with a view to repeating this description without the use of many words. The purpose in referring to this style of armored hose again is to call attention to the application of this principle in making hose for air brake and signal line purposes on railways. A section of air brake hose so constructed is illus-

trated in another accompanying cut. By the use of armored air brake hose, danger of the hose being injured through pinching, kinking or chafing is avoided, while in the case of punc-

at the heel" or "run over." Such heels are referred to as preventing slipping and falling, and as having a good effect on



VIEW OF ARMOR CONSTRUCTION.

tures the armor so protects the hose that the leakage is not sufficient to set emergency brakes. As illustrating the strength given to hose by the armor under review, it is asserted that a one



FLEXIBLE STEEL-ARMORED HOSE FOR AIR BRAKE SERVICE.

inch 3 ply hose equipped with it will stand a hydraulic pressure of 2000 pounds. [Sprague Electric Co., No. 257 West Thirty-fourth street, New York.]

"LADIES' COMPANION" RUBBER.

THE illustration relates to what is called the Ladies' Companion rubber, the form of which is clearly indicated. This is an extra light shoe, adapted for showery weather, rather than downpours. It is designed especially for the use of ladies out



shopping, when the clouds are uncertain, and, being very light, may be carried conveniently in a neat bag provided for the purpose, and put on when needed. [Rochester Footwear Co., Rochester, New York.]

SAGER MOTORCYCLE TOE CLIP.

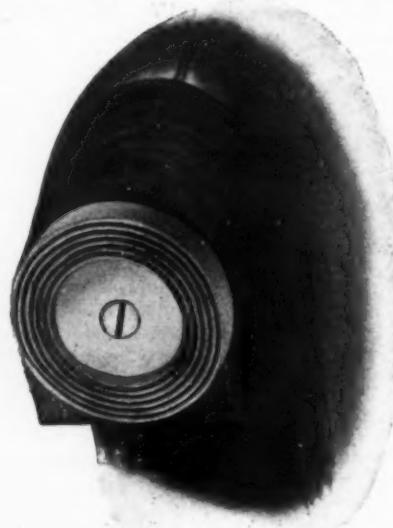
THE Sager toe clip, having proved so satisfactory for use in connection with rat trap pedals, has been modified to fit it to the very comfortable rubber pedals which have been brought out by the same firm for the use of motorcyclists. The rubber pedals being longer than the rat trap, a toe clip of different form of course became necessary, and the new article shown in the illustration is the result. [The Standard Co., Torrington, Connecticut.]



SAGER MOTORCYCLE TOE CLIP

"TREAD-LEVEL" REVOLVING HEEL.

IN use the Tread-Level revolving rubber heel turns lightly at every step, thus wearing off regularly and affording a constant sure footing. Shoes equipped with this device do not get "down



"TREAD-LEVEL" RUBBER HEEL.

the health of the wearer through affording a constant, even distribution of weight on the heel. [The James Manufacturing Co., Cleveland, Ohio.]

"CLINGFAST" FINGER COT.

THE accompanying illustration relates to a reinforced rubber finger cot, which has distinct advantages over goods in this line of the types previously made. It is essential that such goods



CLINGFAST FINGER COT.

have a maximum of strength with a minimum of weight, and the design of the manufacturers of this line of goods has been to give the strength at the most essential point, as will be clearly indicated by the cut shown. [Huron Rubber Co., Cleveland, Ohio.]

TO CARRY HOSE OVER CAR TRACKS.

THE test of a method of hoisting fire hose above the street car tracks so as to avoid blocking them in case of a fire recently took place at Toronto, Ont. It proved to be very superior to the cumbersome rail device often used, by which the cars are carried over the hose. The invention of Outside Superintendent McCoullough, of the street car system of that city, reverses the old styles of proceeding. By means of a tackle and bucket on two opposite trolley poles, the hose is caught up and hoisted to a position just below the wires. By that means every car passing under it has its trolley pulled down for the moment; but the impetus is always sufficient to carry it past. Though the apparatus used on the occasion of the test was somewhat rudely constructed, it proved a gratifying success. It is claimed for the buckets that they can be attached in five minutes with the hose in operation, and that they may be conveniently carried about.—*Fire and Water Engineering*.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

THE marked activity in the tire trade mentioned in these columns a month ago, contrary to the expectation of some manufacturers, has continued, and the present sees the larger tire producing concerns here working their factories night and day to full capacity. Every bit of space and machinery available for tire making has been utilized, and even with these conditions some companies are understood to be thousands of sets behind their orders. The sudden demand a month or two ago was thought to be merely a spurt, but the continued and growing inpouring of orders is convincing manufacturers that the only explanation is that there is a reaction from the business depression of last winter.

"The amazing demand for automobile tires," said an official of The B. F. Goodrich Co., "is partly due to the fact that even wealthy men are reequipping last year's cars with new tires instead of buying new machines out of the stock of the automobile manufacturers. We expect this rush to continue for a month or two."

While Akron tire makers were eager to be represented in every automobile contest that took place in former seasons, they say that the number of these events has so increased this year that only a part of them can be entered. Just now they are watching closely the preparations for the double transcontinental tour for stock cars to be undertaken under the auspices of the *New York Times*. They believe that the run will prove to be a test for tires especially.

On account of crowded conditions in the new six-story factory building of The Diamond Rubber Co. it is probable that a new structure will have to be erected for the Marsh rim factory when that is moved from Columbus to Akron. The recently built addition increased the floor space of the plant by more than 230,000 square feet, and it was designed to locate the rim factory in it, but the growth of the tire business is rendering necessary a change of plans.

The Miller Rubber Co. are about to begin the construction of a three-story addition to their plant, 80 x 36 feet. W. F. Pfeiffer, secretary and treasurer of the company, said that it was expected to have the building ready in 90 days. A complete line of dentists' sundries and molded goods will be manufactured. The company have been operating in the city over ten years.

The Swinehart Clincher Tire and Rubber Co. are planning important changes in the New York and Chicago branches. The New York branch will be moved from the present location at No. 1843 Broadway to a three-story building recently leased at 875 Seventh avenue, above Fifty-sixth street. The change will be made June 1. A new enamelled tile building, three stories high, 172 x 27 feet, is under construction at No. 1720 Michigan avenue, Chicago, to which the branch store in that city will be moved from No. 1231 Michigan avenue on July 1.

During the last two months the Swinehart company have been extending the manufacture of their new demountable rim for motor truck tires. As with the demountable pneumatic tire rim, the new product for solid tires makes it possible to change tires quickly, thus rendering it unnecessary to lay up trucks for repairs on account of tire trouble.

A number of Akron rubber manufacturers are coöperating in the efforts of the commercial interests to organize an Akron chamber of commerce. C. B. Raymond, secretary of The B. F. Goodrich Co., and A. H. Noah, treasurer of The Diamond Rubber Co., are directors in the organization, and a number of other manufacturers are actively interested as members of preliminary committees. A large part of the capital stock of \$100,000 has been subscribed.

Mr. J. F. Singleton, advertising manager of the Firestone Tire and Rubber Co., left on April 25 for a two months' pleasure trip through the West. He has made stops at various cities through the Southwest and after spending some weeks on the

Pacific coast and in the hunting grounds of Idaho, he will return by way of the northern route. In his absence, Mr. W. G. Slater, of Cleveland, an advertising man of experience, is acting as advertising manager of the Firestone company.

W. M. Perrett, for six years manager of the Detroit branch of The Diamond Rubber Co., resigned from that position four weeks ago. George J. Bradley, manager of the Cleveland branch, was made manager of both the Detroit and Cleveland branches.

W. T. Helfer, formerly manager of the Boston branch of The Diamond Rubber Co., and prominent in the rubber trade, was a recent visitor to Akron. He is now engaged in the automobile-body manufacturing business in Springfield, Massachusetts.

S. G. Carkhuff, secretary of the Firestone Tire and Rubber company, left during the latter part of May for an extended pleasure and business trip through the West.

At the offices of The Diamond Rubber Co. considerable satisfaction is expressed by reason of the showing made by the Diamond demountable rim in the Briarcliffe races last month. They were issued by the Lozier No. 7, the Thomas No. 12, the Lozier No. 9, and the Apperson No. 3. The company have issued a booklet containing the record of the tires in the races.

A new chemical laboratory is to be built at once by Buchtel College, of Akron, which will be equipped with a special rubber laboratory. It will be provided with modern appliances for research work in the chemistry of india-rubber, with a special view of affording opportunities to chemists in local companies to pursue advanced experimental work.

THE RUBBER TRADE AT SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE period of two weeks celebration which San Francisco experienced while the battleships lay in the harbor has just passed; the ships sailed out quietly, and very differently from the noisy reception of their entrance, and the vast assemblage of visitors is as quietly disappearing. While the fleet was here the hotels, cafés, and kindred places were the great centers of business activity, and such houses as the rubber stores had almost as well have been closed. Nevertheless, the rubber establishments now report that the city business has been benefited to a very large extent, owing to the new money which has been left here to circulate in all commercial channels.

The wholesale business of dealers in rubber goods has shown such a marked improvement during the past few weeks that the merchants all look forward with confidence in the favorable outcome of trade on the Pacific coast. The conditions are so favorable throughout the interior of the states along the Coast that only a greatly unexpected event would stem the tide of prosperity. There is no one in the local trade who does not expect to see the old time business activity revived within the next two or three months.

Mr. Chase, manager of the Bowers Rubber Works, states that trade has shown continual improvement. "The conditions have been somewhat peculiar," he said. "Each month we have been wondering where the next month's business was coming from, and we have wondered for the past six months, but by dint of perhaps a little extra effort we have each time come out at the end of the month with a flourishing business. We have been remarkably fortunate in keeping our full force at work in the factory, and even running full time."

Morgan & Wright have discontinued their San Francisco branch store, which since the fire two years ago, has been located at No. 433 Golden Gate avenue, and the agency for their automobile and solid vehicle tires has been placed in the hands of the new and progressive firm of Weinstock & Nichols, for Northern California and Nevada. The latter firm are located at No. 602 Turk street, and are successors to the Harris Rubber and Supply Co.

The Chanslor & Lyon Motor Supply Co. have recently secured

the coast agency for the Hartford tires, the Hartford branch, formerly located at 433 Golden Gate avenue having been discontinued. The supply company are located in a large and busy store at No. 542 Golden Gate avenue.

The Peerless Leather Tire Co. have been recently incorporated and opened a place of business at No. 456 Golden Gate avenue.

The report from the local branch of the Pennsylvania Rubber Co. is that business is good and steadily improving. Collections are reported as being fairly good. "Our last month's business was 25 per cent. bigger than for any months for a long time back, and so far in May trade is showing up so well that the outcome should be ahead of last month. The entire country, and especially the Pacific coast is in a first class shape."

Following the changes in the firm of Barton-Squires-Byrne, Inc., Messrs. Squires and Byrne having withdrawn, the reorganized company has been changed in name to the Barton Packing and Rubber Co. They are located on Howard street, between First and Second.

The Stevens-Elkington Rubber Co. of San Francisco has recently filed articles of copartnership.

Joseph V. Selby, manager of the branch office of the Boston Woven Hose and Rubber Co., has moved the office from its temporary location at First and Fulton streets to permanent quarters at No. 507 Mission street.

Mr. Sergeant, of the Gorham Rubber Co., states that sales are steadily increasing. Sales in the country, particularly, are very much improved and prospects are a great deal brighter than a few months ago. "It would appear that it is simply a question with the buyer in placing his orders. As soon as he feels that he will be able to meet his obligations he will not hold back."

The Diamond Rubber Co., which since the fire of two years ago has been holding forth with the main branch in Oakland, is now moving all the departments back to this side, having secured large and elegantly furnished quarters on the corner of Mission and Second streets.

The Sterling Rubber Co. have secured permanent quarters at No. 166 Second street, where they will be installed by about June 1.

R. H. Pease reports for the Goodyear Rubber Co. that business is perhaps not as active as at this time in former years, but that it is running along satisfactorily considering the times, and that there are a great many orders coming in for future delivery. Collections, he says, have been remarkably good. This firm will move into its new building at No. 587 Market street by the first of June. The store will connect with the store which runs around on Second street, so that they will have a great deal of floor space. Mr. Pease, together with his son, who has recently come into the business, have returned from their eastern trip and in the early part of July will go to Portland, Oregon, to spend the summer.

The Gutta Percha and Rubber Manufacturing Co., of New York, who went into temporary quarters at Alameda after the great fire, have moved their Pacific coast branch into San Francisco again, and are now established at Nos. 69-71 First street.

RUBBER INTERESTS IN EUROPE.

GERMANY.

THE tenth annual meeting of the Frankfurter Asbestwerke Aktiengesellschaft (formerly Louis Wertheim) was held at Frankfort o/M. on April 25, where accounts were presented for the business year ending December 31. The dividends for the year amount to 7 per cent., the same as for 1906. In 1905 the dividend was 5 per cent.

Asbest- und Gummierwerke Alfred Calmon Aktiengesellschaft (Hamburg) during their twelfth business year had trading profits of 915,444 marks and net profits of 412,671.72 marks. A

liberal amount was written off for depreciation, and a dividend declared of 6 per cent. on the capital of 6,000,000 marks, the disbursement amounting to 360,000 marks [= \$85,680].

GREAT BRITAIN.

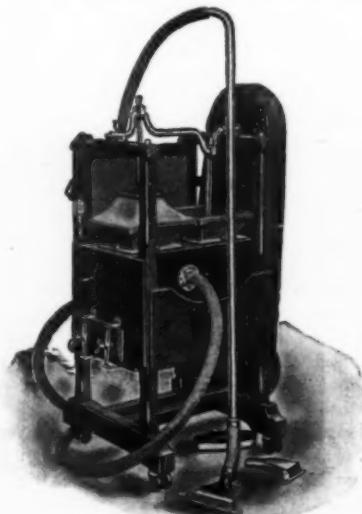
The directors of British Insulated and Helsby Cables, Limited, report for the business year 1907 a profit of £135,620 [= \$659,994.73] against £197,112 in the preceding year and £133,902 in 1905. Dividends: 6 per cent. on the preference shares and 8 per cent., with a bonus of 2 per cent., on the ordinary—total disbursement of £80,000 [= \$389,320]. Besides, £22,500 went for interest on the £500,000, of debentures. The volume of business was large, but profits were adversely affected by the high price of copper early in the year and the general financial stringency later.

FRANCE.

A NEW journal has been established in Paris—the *Revue Internationale du Caoutchouc de la Gutta-Percha*. The director is W. K. Karolewski, and the offices at 12, boulevard de Strasbourg. The first issue, dated March 10, contains articles of interest on vulcanization processes, reclaiming rubber, extraction of latex, rubber substitutes, the Congo rubber situation, and so on.

PORTABLE SUCTION CLEANER.

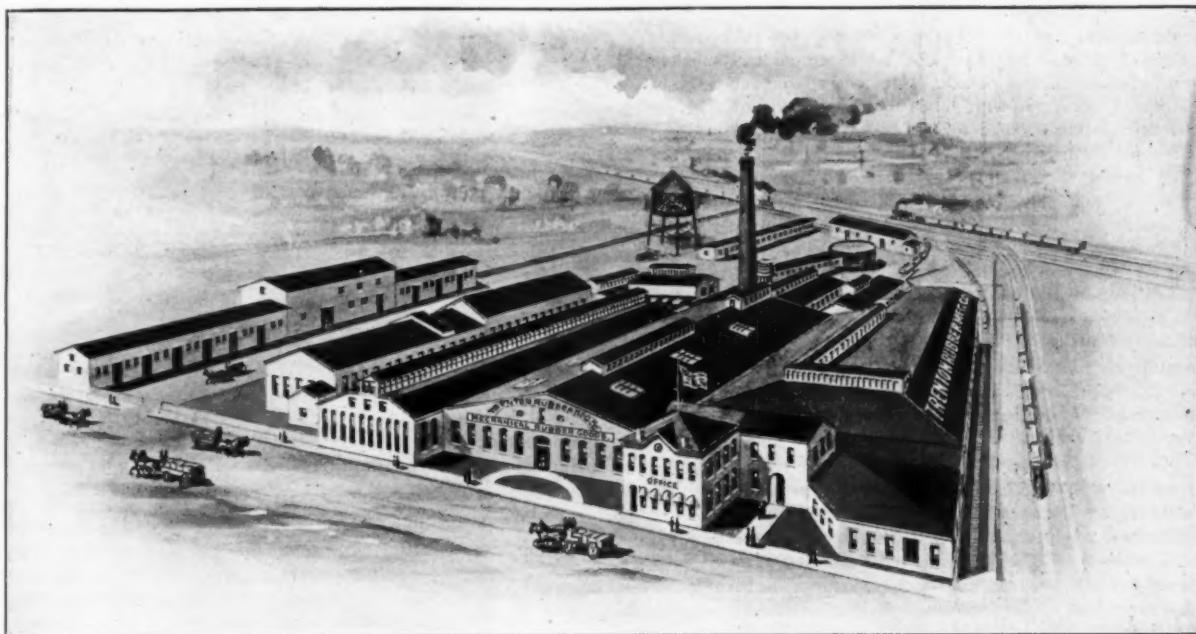
THE illustration herewith shows a new type of portable suction dust cleaner, for use on carpets, furniture and the like in offices, clubs, churches, hospitals and public buildings, as a substitute for the endless and heavy task of sweeping and dusting with ordinary facilities. The whole outfit is not more



PORTABLE SUCTION CLEANER.

than 3 feet high; weighs only 78 pounds, and is run by a small motor which can be attached in a moment to any electric light socket, or if desired it can be equipped for hand power. Being mounted on ball bearing casters, it can be removed readily from room to room. This new machine is supplied by the Dustless Cleaner Co., No. 39 West Twenty-first street, New York.

THE annual Agri-Horticultural Show of the Straits Settlements and Federated Malay States will be held this year at Kuala Lumpur, on August 10-12. The show was held last year at Kuala Lumpur, and was largely attended, not the least interesting feature being the exhibits of plantation rubber. Presumably rubber will be equally important this year.



Notable Changes at the "Trenton" Factory.

THE laboratory as an adjunct to the rubber factory is getting more and more to be an indication of progress. To be sure, many old and successful concerns get along very well without one, but every year their number lessens.

The installation of an up-to-date and fully equipped laboratory at the works of the Trenton Rubber Manufacturing Co. (Trenton, New Jersey) marks such a definite change of policy, and such an awakening to modern requirements, that our visit of investigation was the result. The history of the company has already appeared in **THE INDIA RUBBER WORLD**. A detailed sketch of the newly modeled factory, however, has not heretofore been written and is timely.

The plant is situated on the main line of the Pennsylvania railroad, quite near the magnificent new shops of that great corporation. Most of the buildings are of brick, one story, with monitor tops, affording plenty of light, and the floor space utilized amounts to something like 100,000 square feet. One of the most important things in a rubber mill, particularly in mechanical rubber good, is the water supply. The Trenton Rubber Manufacturing Co. are specially fortunate in this, having their own 8 inch pipe line to Assanpink creek, together with a large artesian well. They have for storage a 110,000 gallon tank, and a 25,000 gallon hot well, in which is stored the water from the calenders, grinders, and presses, for later use in the boilers. The power plant consists of a 350 HP. Corliss engine, a battery of 7 boilers amounting to 450 HP., together with dynamo for their own electric light plant, underwriters' pumps, and so on. As for rubber machinery, there are 15 mixers, and warmers, 4 calenders, one 30 foot belt press 72 inches wide, one 25 foot double deck press 50 inches wide, 3 double deck 40 inch presses, 2 double deck 30 inch presses, a battery of small screw presses, 4 tubing machines, together with machinery of special design for hose, belting and packings.

Under the new arrangement the business has been departmentalized and is really an aggregation of separate plants for hose, fittings, belting and packings.

beltling, and packing; specialties for the automobile trade, including inner tubes; "Thermidor" brake lining; auto mats, and the like; a solid tire department containing five 30 foot vulcanizing molds; and a specialty department for small work such as horseshoe pads. On the six acres of ground owned by the company are also their own machine shop, blacksmith shop, and carpenter shop, and a reclaiming plant with a capacity of about 5 tons of finished stock a day.

The offices are in a separate two story building, close to the factory proper, and connecting on the lower floor with the receiving and shipping rooms. The factory is thoroughly sprinkled throughout, has its own railroad siding, and, as the beginning of this article indicated, has lately built and equipped a fine



LABORATORY—TRENTON RUBBER MANUFACTURING CO.

laboratory. As a matter of interest to those who believe in laboratories, the general equipment consists, primarily, of a fire-proof building with plenty of light and with concrete floors. The interior is finished in white, with the exception of ebonized acid proof tables, which are black. For general equipment there is a ventilating apparatus with hoods for the removal of acid vapors, and the building is piped for gas, steam and compressed air, and wired for electricity.

To itemize the great variety of retorts and special vessels of glass, platinum, aluminum, and hard rubber would require a deal of space, and, indeed, it is more interesting to put emphasis, for example, upon such special contrivances as the solid concrete pile set deep in the earth to prevent vibration to which is attached the sensitive analytical balance. The illustration herewith shows only a part of the laboratory proper. Another portion of it not shown is that in which is now being installed experimental machinery, such as a small mixing mill, a dry heater, vulcanizer, press, and a specially strong steel vulcanizer for high pressures. A portion of the department is also reserved for special testing machines now being constructed.

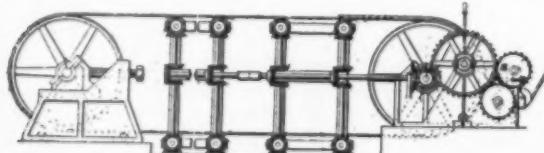
* * *

At the recent election of officers of the Trenton Rubber Manufacturing Co. the various positions were filled as follows: Joseph O. Stokes, president; William J. B. Stokes, treasurer; Frederick N. Hamerstrom, general manager; Francis C. Lowthrop, secretary; Fred S. Wilson, assistant secretary; Robert J. Stokes, superintendent. The following office appointments were made: J. Harry Thompson, office manager; Albert N. Numbers, manager mail order department; R. Sidney Woods, general auditor; L. T. Kuhl, credit man; James Driscoll, chief chemist.

NEW RUBBER FACTORY APPLIANCES.

A FABRIC MAKING MACHINE.

AMONG the interesting inventions that have recently been filed in the United States patent office were two along the lines of fabrics for tires and hose. They are the joint inventions of Eugene D. C. Bayne and Lawrence A. Subers, of the Bayne-Subers Tire and Rubber Co., of Cleveland, Ohio. In the illus-



FABRIC MAKING MACHINE FOR TIRES AND HOSE.

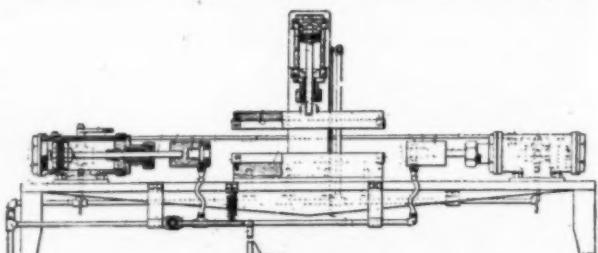
trations herewith one shows the fabric-making machine which is, in brief, a movable table made up of a wide endless metal band that runs longitudinally over two large drums. Mounted upon this is a movable carriage that runs transversely over the band. The machine is fitted with the necessary gears, guide wheels,

and the like, and is run by power. The second illustration shows the fabric produced by the machine. This fabric is composed of layers of threads, each strand being coated with rubber; the strands then being laid parallel so that the rubber surfaces touch and join, and when one longitudinal layer is finished a transverse layer is built upon it, the whole being then vulcanized. It is said under tests that the fabric shows wonderful strength. The patents are numbered 885,220 and 885,219, respectively, and dated April 21, 1908.

CAPPING THE ENDS OF HOSE.

THE illustration herewith shows a very compact mechanism for capping the ends of rubber hose. It covers a means for

clamping and holding the hose on the mandrel, a cutting knife at the end of the clamps, a plunger chambered to admit the end of the mandrel, and means for admitting air



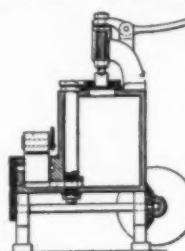
APPARATUS FOR CAPPING HOSE SECTIONS.

under pressure to the chambered end of the plunger which spreads outwardly the inner tube of the hose across the end of the knife. The invention is covered by patent No. 885,797, issued April 28, 1908, to Samuel J. Sill, assignor of one-half to Herbert H. Hewitt, both of Buffalo, New York.

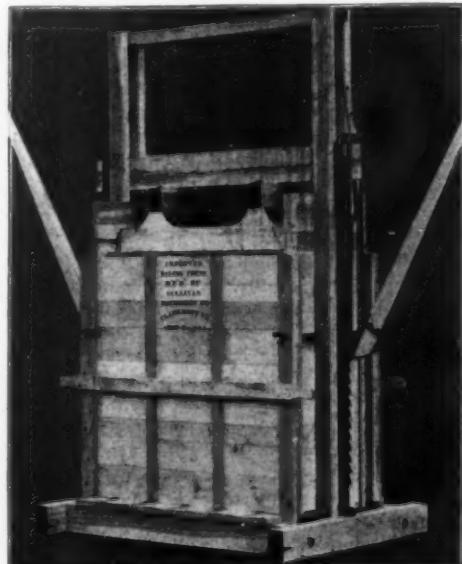
A SHOE CEMENTING MACHINE.

In the manufacture of certain types of footwear cementing machines are coming more and more into use. Indeed, their application extends even further than the industry mentioned. In the illustration accompanying this is a simple type of cementing machine which

comprises the usual reservoir and trough, through which the material to be cemented is led, feed opening ducts, etc., the whole arranged so that the supply of cement can be increased, diminished, or shut off almost instantly. This invention is covered by United States patent No. 885,862, issued April 28, 1908, to Charles W. Phipps and William J. Steele, of Northampton, England.



CEMENTING APPARATUS.



A NEW BALING PRESS.

[Used for baling scrap rubber and in some rubber factories for baling waste paper and pasteboard. Manufactured by the Sullivan Machinery Co., Claremont, New Hampshire.]

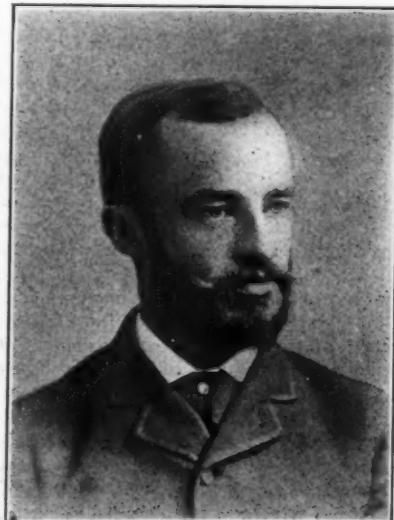
News of the American Rubber Trade.

NEW RUBBER FACTORY AT LOCKPORT.

A NEW mechanical rubber goods company has been incorporated as the Lockport Rubber Works, at Lockport, New York. The president of the company is Charles F. U. Kelly, widely known in connection with the rubber tire trade, having been in charge until recently of the tire sales of the Continental Rubber Works (Erie, Pennsylvania). The vice



CHARLES F. U. KELLY.
[President Lockport Rubber Co.]



J. EDWIN DAVIS.
[Vice President Lockport Rubber Co.]

president is J. Edwin Davis, who has had a long experience in the manufacturing and selling of mechanical rubber goods, having been for some years past in charge of this branch of the Continental works. Harry M. Wood, lately of Erie, Pa., is secretary of the new company. The Lockport Rubber Works is capitalized at \$300,000. It has leased property of the International Steam

Pump Co., known as the Holly plant, of which it will occupy for the present buildings containing floor space of over 110,000 square feet, and exceptionally well suited for the rubber manufacture. The company will have electric power from Niagara Falls as cheap or cheaper than any other in the country, and have been planning to have ready for operation by June 1 an outfit of machinery of the most modern make. The products will include belting, packing, hose, matting, molded goods, baby carriage tires, cycle tires, automobile tires, and tire tubes. The plant embraces a very complete laboratory for the inspection of all raw materials used and also for finished goods before shipment. The new company have taken pains to organize an efficient staff and have had encouraging indications of business in prospect.

AJAX-GRIEB COMPANY'S NEW FACTORY.

THE new factory of the Ajax-Grieb Rubber Co., at Trenton, New Jersey, was formally opened on May 11, when three car-loads of representatives of the tire trade accepted the invitation of President Horace DeLisser to take part in the formalities. The company's branch managers were present, one coming from so far away as San Francisco. Among those who made addresses was the Hon. J. Franklin Fort, governor of New Jersey, who by pressing an electric button started the wheels of the factory. The building just opened is 60 x 180 feet and three stories high. The visitors were shown through the factory and entertained at luncheon, after which there was a vaudeville entertainment until the time of the departure of the special train for New York.

AITON MACHINE CO.—NEW CONNECTIONS.

THE Aiton Machine Co. (New York), have made connections with the Samuel L. Moore & Sons Corporation, Carl D. Bradley, president, of Elizabethport, New Jersey, for the manufacture and sale of Aiton machinery. The company will in the future solicit patronage in the name of the Samuel L. Moore & Sons Corporation. Thomas A. Aiton, vice-president of the Aiton Machine Co., will make his headquarters at the plant of the Moore corporation at Elizabethport. All business connected with the Aiton Machine Co. will receive his personal direction and supervision.

BALTIMORE HOUSE MAKES A CHANGE.

TILLINGHAST Rubber Co. (Baltimore, Maryland) have removed to a new location, No. 109 North Liberty street, where the amount of floor space occupied is three times as large as formerly. They have been established in Baltimore—being a branch of the Philadelphia firm B. C. Tillinghast—for 18 years, making steady progress all of this time. Since the Baltimore fire four years ago the business has increased rapidly. At present it is under the management of Mr. C. H. Friant, who was formerly with the Philadelphia house.

CHANGES OF LOCATION.

THE Swinehart Clincher Tire and Rubber Co. have removed their New York headquarters to larger premises, at No. 875 Seventh avenue. The Chicago branch has been removed to 1720 Michigan avenue.

The Massachusetts Talc Co. have removed their general offices from Boston to North Adams, Massachusetts, adjacent to their mills, with a view to facilitating the filling of orders.

Jenkins Brothers, manufacturers of the Jenkins rubber valves and packing, have removed their Chicago store to larger premises at No. 226-228 Lake street.

S. F. Hayward & Co. (New York), long important factors in the fire department supply business, have removed from No. 30 Warren street to No. 39 Park place.

MR. BROWN MAKES A CHANGE.

ONE of the best known of the younger men in crude rubber lines is Mr. Andrew H. Brown, who something like a dozen years ago came into the Boston office of the Boston Rubber Shoe Co. under the late A. H. Yeomans, and was not only exceedingly valuable but wonderfully liked as assistant in the purchasing department. About six years ago he was transferred to the New York office of the United States Rubber Co., where he very competently filled the position of assistant treasurer for the Gen-



ANDREW H. BROWN.

eral Rubber Co. With the first of May, however, he resigned that position, and as this issue goes to press will be connected with the New York crude rubber firm of A. T. Morse & Co. Very few young men in the trade have the following or the knowledge that Mr. Brown has acquired, and it is a very safe prediction that he will be successful in his new connection. By the way, THE INDIA RUBBER WORLD some years ago published a picture of Mr. Brown and Arthur W. Stedman taken at the time of their trip up the Amazon in search of india-rubber information.

A CORRECTION.

THE MOTZ Tire and Rubber Co. (Akron, Ohio) advise THE INDIA RUBBER WORLD that an error appeared in a reference to them in the May 1 issue (page 269). They state: "No restraining order has issued out of any court of the United States enjoining our company from manufacturing tires in the case. We are still manufacturing all of our catalogued tires, and especially our new non skid cushion tire."

A SPORTING GOODS DIRECTORY.

THE excellently edited *Sporting Goods Dealer*, of St. Louis, has brought out a Directory of The Sporting Goods Trade, a volume of 222 pages, in which are arranged under several hundred headings the names and addresses of manufacturers of and dealers in sporting goods of every class. This is the first attempt at a publication of this kind, and while the editor modestly disclaims completeness, no doubt most persons who see the book will be surprised at the amount of information which it contains. The price is \$1.

THE LATEST ELECTRIC SIGN.

MANY retail houses will appreciate a low priced, high grade, electric sign for outdoor use. Such a sign is made by the Hartford Electric Sign Co. (Hartford, Connecticut), which requires only two electric lamps, one on each side, to light it brilliantly, with interchangeable plates for face of sign, of white enameled

iron, which can be replaced with extra ones with different reading matter, when required. The frames are made of artistic bent Venetian iron, with substantial cold bent steel hanger and bracket. It is artistic as well as practical. This style sign can also be made non-electric, for use in places where electric current is not available.

TRADE NEWS NOTES.

THE number of shareholders in the United States Rubber Co. on April 30, 1908, is reported to have been about 4900, a gain of about 1200, compared with July, 1907.

The demand for tennis shoes is reported to be very satisfactory, and the factories making this line are running to full capacity.

The Hood Rubber Co. (Boston) are reported to be running a daily ticket of 30,000 pairs at their factory at East Watertown, with 2500 hands employed, which number it is expected will be largely increased before midsummer.

The Home Rubber Co. (Trenton, New Jersey) have sent to the offices of many of their friends in the trade a very neat desk accessory in the shape of a pad to go under an inkstand, made of their celebrated "N. B. O." black packing.

Owing to the death of Mr. R. H. Smith, president of the R. H. Smith Manufacturing Co. (Springfield, Massachusetts), reported on another page, the company have been reorganized by electing Henry M. Smith president, Arthur H. Rogers and Frank N. Chapin vice presidents, Henry T. Lorimer treasurer, and Frank A. Wakefield secretary. The company manufacture complete outfits for making rubber stamps, and also the "Springfield" motometer.

The Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey) send out an attractive catalogue labeled "Big Game," devoted to illustrated descriptions of unusually large suction hose and other goods in this line.

At the annual meeting of the Boston Rubber Shoe Co. on May 4, Harry E. Converse, C. C. Converse, Lester Leland, Samuel P. Colt, E. F. Bickford, John J. Watson, Jr., and Homer E. Sawyer were elected directors. Harry E. Converse was re-elected president and Lester Leland treasurer.

The property of the United States Graphite Co. (West Chester, Pennsylvania) was sold at public auction by the referee in bankruptcy on May 7, for \$31,000, the purchaser being an attorney understood to represent T. Duncan Just, of No. 1215 Filbert street, Philadelphia.

The postmaster general has issued an order permitting the puncturing or perforating of postage stamps, for the purpose of identifying them, as has long been the practice of many British firms as a check against the embezzlement of stamps by dishonest employés and their theft by others. It is understood that this new regulation is due to the efforts of The Merchants' Association of New York, which has been agitating the matter for some time.

The directors of the Boston Woven Hose and Rubber Co. have declared a semi-annual dividend of \$3 per share on the preferred stock, payable June 15, 1908, to stockholders of record June 5.

The Niagara Rubber Co. (Lockport, New York), incorporated October 23, and for some time engaged in the manufacture of rubber tires and mechanical goods, have disposed of their machinery and for the present, at least, are not engaged in business.

The Seamless Rubber Co., in addition to inner tubes for tires, are making a number of other automobile accessories, including rubber gloves for automobilists, horn bulbs, and rubber lamp connections.

Mr. G. Edward Habich, for some time connected with George A. Alden & Co., has opened an office at No. 170 Summer street, Boston, and will hereafter visit the trade as a crude rubber broker. His many friends among the manufacturers will undoubtedly wish him the best of success.

NEW OWNER OF THE FACTORY AT RUTHERFORD.

THE Rutherford Rubber Co., incorporated in New Jersey, January 16, 1908, have purchased from the receiver the plant owned formerly by The Electric Rubber Manufacturing Co., at Rutherford, N. J. It is stated that "this company, neither as individuals nor as a company, ever had any connection with the Electric company." The new company have begun the production of solid carriage tires and pneumatic tires and tubes, all under the trade name "Sterling." THE INDIA RUBBER WORLD is informed that the full amount of the capital authorized by the company's charter—\$300,000—has been paid in, but the organization at last accounts had not been completed. Charles Austin Bates, of No. 320 Fifth avenue, New York, is president of the company, and F. G. Mott, Jr., is vice president and general manager. The head office is at Rutherford, N. J.; there is a New York office at No. 253 West Forty-seventh street.

CHELSEA VERY MUCH ALIVE.

THE Chelsea Manufacturers Association, starting with a membership of about forty and including manufacturers, bankers, and large taxpayers, has been formed with the idea of showing to the world that Chelsea, in spite of the great fire there in April, is far from being "dead." The 25 manufacturers who belong to the association are rated by a leading mercantile agency as having a capital of about \$8,000,000. Of the manufacturing firms who were injured by the fire only one has moved away so far, and they did not own their factory building. The immediate object of the association is to rebuild homes in Chelsea for the working people, to replace the great number destroyed by the fire. W. H. Gleason, of the Revere Rubber Co., is president; R. E. Bartels is treasurer, and F. H. Blaney secretary. The executive committee consists of William Martin (of T. Martin & Bro. Manufacturing Co., in the elastic webbing trade), chairman; R. E. Bartels, A. D. Bosson, A. G. Walton, and W. S. Forbes.



A 42-INCH SUCTION HOSE.

THE very graphic illustration herewith shows a section of a 42 inch suction hose manufactured by the Voorhees Rubber Manufacturing Co. (Jersey City, New Jersey). The picture tells its own story and tells it mighty well, and the story is big work, good work, and good workmen.

SOME WASTE RUBBER IS DUTIABLE.

THE importers at New York of certain goods which they sought to enter free of duty as scrap rubber, protested against its classification by the port collector as waste dutiable at 10 per cent., under paragraph 463 of the tariff act. The board of United States general appraisers held: "While it appears that the rubber in question was bought and sold as 'scrap,' it is also shown that some of the pieces could be used for patching rubber tires, and that the price of the merchandise found by the board

on reappraisal is less than one-half that charged for new rubber tire stock." The action of the collector was sustained.

A NEW GOLF BALL.

MR. W. H. YULE, formerly of the Badger Brass Manufacturing Co., has been recently appointed manager of the golf ball department of The B. F. Goodrich Co. (Akron, Ohio). As a specialist in golf balls the young man is particularly enthusiastic about the Haskell-Whiz ball, which is the latest golf product. By a different method of winding, the ball is perfectly balanced, and the cover is so applied that uniformity, balance and accuracy are all there. These add long flight and accuracy on the putting green. Another excellent feature of the ball is a cover that is practically cut proof.

HOW DOES THIS DIFFER FROM GALILITH?

THE newspapers mention George V. Frye, of Mansfield, Ohio, as having produced from skim milk a substance which is impervious to acids, is unaffected by heat or cold, and is a high class electrical insulating material. The new substance has been named Omsite. It is reported to be the subject of patents, which cover an electrical treatment of the milk.

TRADE NEWS NOTES.

EDWARD B. PEARSON, for several years president and treasurer of the Tremont Rubber Co. (Boston), has become connected with the shoe jobbing house of Falconer, Lane & Co., in the same city, and will have charge of their sale of the Apsley Rubber Co.'s goods in New York and the New England states.

L. P. MacMichael, of the late firm of A. W. Brunn & Co., in the crude rubber trade, the dissolution of which was reported in the last INDIA RUBBER WORLD, is continuing in the business, at Nos. 2-4 Stone street, New York.

F. H. Appleton & Son have very largely increased their plant at Franklin, Massachusetts, and incidentally installed \$25,000 worth of new machinery. The selling force of the company has also been strengthened by the addition of Mr. Lloyd E. Appleton, nephew of the founder of the company.

The Mattson Rubber Co. (Lodi, New Jersey) announce the removal of their New York stock room to No. 161 Columbus avenue.

The bootmakers at the Fells factory of the Boston Rubber Shoe Co. have been transferred to the factory in Edgeworth, where all the bootmakers employed by the company will work hereafter.

An interesting fire drill is held each week at the factory of the Hartford Rubber Works Co. (Hartford, Connecticut), where an efficient brigade has been organized from the ranks of the employees, and apparatus provided by means of which water can be thrown to the topmost point of all the buildings.

Ernest R. Benson, who in December last resigned the position of secretary of the Hartford Rubber Works Co., has become sales manager of the Cadillac Motor Car Co. (Detroit, Michigan).

Ernest H. Brandt, some time New York manager for the Hartford Rubber Works Co., has been appointed general Eastern manager of the Cadillac Motor Car Co. (Detroit, Michigan), from which it is inferred that the Cadillac will establish a New York branch.

E. Bers & Co., scrap rubber merchants of Philadelphia and New York, are issuing an attractive series of picture postal cards showing views of Philadelphia, and incidentally calling attention to the growing line of business of this enterprising firm.

The Standard Gauge Manufacturing Co. (Syracuse, New York), makers of indicating gages for all purposes, have removed their New York branch to Room 1770, Hudson Terminal building, in order to obtain more spacious quarters. Their Western branch is located in the Monadnock building, Chicago.

NEW INCORPORATIONS.

THE Batavia Rubber Co., April 17, 1908, under the laws of New York; capital, \$70,000. Incorporators: Lewis Benedict and Augustus A. Smith, Attica, N. Y.; and Ashton W. Caney, Batavia, N. Y. On April 13 the property of the Sweet Tire and Rubber Co., at Batavia, was sold at public auction, preliminary to reorganizing the business, and the new company succeeds in control. The three incorporators named were all directors in the Sweet company, Mr. Caney having been such since its incorporation, in August, 1902. The old company was formed to make a solid vehicle tire patented by John M. Sweet. He left the company in 1905, and the company took on the manufacture of various kinds of tires, and have done a considerable volume of business.

Lockport Rubber Works, April 21, 1908, under the laws of New York; capital \$300,000. Incorporators: J. E. Davis and H. M. Wood, Erie, Pennsylvania; E. H. Seaman, Middleport, N. Y., and A. M. Steele, Lockport, N. Y. Further details are given on another page of this paper.

The F. A. Cigol Rubber Co., April 4, 1908, under the laws of New Jersey; capital, \$10,000. Incorporators: Frank A. Cigol, Henry Marelli, and Sanfilici Alexander, all of Paterson, N. J. The new company inform THE INDIA RUBBER WORLD that they have begun making rubber erasers and molded goods, supplying customers who practically take up their whole product. Mr. Cigol was one of the incorporators of the Laurel Rubber Co., formerly of Passaic, N. J., and later at Garfield, N. J., and for some years was their factory superintendent. The new company are located at Nos. 55-57 Albion avenue, Paterson.

John H. Parker Co., May 11, 1908, under the laws of Massachusetts; capital, \$35,000. Incorporators: John H. Parker, Charles L. Parker, and James E. Andrews, all of Malden, Mass. John H. Parker is president and treasurer; office No. 25 James street, Malden. Business, the manufacture of shoes, shoe findings, and waterproof garments, hitherto carried on by Mr. Parker.

The Pilgrim Rubber Co., April 18, 1908, under the laws of Massachusetts; capital, \$25,000. Incorporators: Arthur E. Denison, Cambridge; Arthur W. Denison, Newton; and W. Stanley Campbell, West Roxbury, Mass.

American Puncture Proof Tire Co., May 9, 1908, under the laws of Illinois; capital, \$60,000. To manufacture the Dykes puncture proof pneumatic tire. Incorporators: George E. Dixon, John L. G. Dykes, and Harold S. Osborne. It is intended to establish a factory in Chicago. Temporary address, First National Bank building.

Vacuum Insulating Co., May 11, 1908, under the laws of Maine; capital authorized, \$500,000. Incorporators: James E. Manter, Clarence E. Eaton, Charles D. Fullerton, and A. S. Conant, all of Portland, Maine.

American Insulating Co., May 11, 1908, under the laws of Maine; capital authorized, \$12,000. Incorporators: James E. Manter, Clarence E. Eaton, Charles D. Fullerton, and A. S. Conant, all of Portland, Maine.

RUBBER TIRES FOR NEW YORK FIRE DEPARTMENT.

The fire commissioner of New York city lately advertised for bids, to be opened on April 30, for supplying about 14,620 pounds of solid rubber tire stock, of various dimensions, for use in the boroughs of Manhattan, The Bronx and Richmond. The details included 193 tires, in addition to 5 reels of light stock. The largest tires called for were 3 wired, No. 5 wire, 4 inch flat base. A contract for the above was awarded to The Diamond Rubber Co. (Akron, Ohio).

LA ZACUALPA PLANTATION NOTES.

La Zacualpa Rubber Plantation Co. are experimenting on their estate in Chiapas, Mexico, with centrifugal machines in the handling of rubber latex in large quantities. The management have found that they can safely tap 10 months in the year, which

is a very desirable consideration. At latest accounts tappers were averaging 8 to 9 pounds a day of dry rubber or the equivalent in latex. The company plan to plant 2,000 acres in rubber this year, from seed.

TRADE NEWS NOTES.

THE "Kantleek" inner tubes for automobile tires, mentioned in the last INDIA RUBBER WORLD as being made by The Seamless Rubber Co. (New Haven, Connecticut), are distributed by the important sporting goods house of A. G. Spalding & Brothers (New York).

The United States Rubber Co. are now occupying their new Boston headquarters, at No. 140 Essex street, corner of Columbia. They are desirably located in the center of the shoe trade district, and the store and offices are admirable with regard to arrangement and appointments. The offices of the Boston Rubber Shoe Co. are also located here, and the offices of the American Rubber Co.

Eureka Fire Hose Manufacturing Co. (New York) issue a sheet of practical and excellent "Directions Concerning the Care of Fire Hose" designed to be posted in fire houses.

Work was resumed on May 11 at the boot factory of the Woonsocket Rubber Co., at Millville, Massachusetts. The "Alice" mill, at Woonsocket, was not opened on the same date, as was intended, on account of the delays involved in installing a large new engine, but is now active.

The offices of W. R. Brixey, the insulated wire manufacturer, have been removed from No. 203 Broadway, New York, to No. 30 Church street, in the Hudson Terminal buildings. Mr. Brixey's son R. D. Brixey acts as general manager of the business. Mr. Brixey is manufacturing a submarine cable 50 miles in length, to be laid along the route of the Panama canal.

The Hood Rubber Co. (Boston) were reported lately to be running full time for all the day employés, and to have put on a regular night force.

The Manhattan Rubber Manufacturing Co. (Passaic, New Jersey) have taken up the work of repairing automobile tires, which they are referred to as doing with a great deal of success.

Schedules in bankruptcy of Leon Rubay (corporation), dealer in tires and other automobile supplies, No. 1607 Broadway, New York, showed liabilities of \$25,186, and assets of \$19,562—cash, \$586; stock and fixtures, \$5,945; and accounts, \$13,031.

The Hartford Rubber Works Co. (Hartford, Connecticut), in order to keep pace with the orders received for Hartford tires, have been obliged to put on a night force.

The rubber footwear factory of L. Candee & Co. (New Haven, Connecticut), after a shutdown lasting from the middle of March, resumed work on May 4 on full time—10 hours a day.

The firm of Hagemeier & Brunn (Produce Exchange annex, New York), importers of crude rubber since 1859, and whose members are Messrs. Paul Bertuch, Lincoln Brunn, and Ewart M. Brunn, desire to state that they have no connection whatever with any other firm or house in this line. Mr. A. W. Brunn, who is a rubber broker, although located in the same building, is not related to the Bruns of Hagemeier & Brunn, nor has he ever been in any way connected with this firm.

The Manhattan Rubber Manufacturing Co. (Passaic, New Jersey) are opening a new branch—in New Orleans, at No. 204 Decatur street.

The Greenwald Rubber Co. (Buffalo, New York), of which Lemon Greenwald is manager, is a distinct organization from the Empire State Tire Co., incorporated in August, 1907, and which purchased the Greenwald internal protector for tires, which they are now manufacturing. Mr. Greenwald's new company will promote his other inventions.

"Fillem" is described as a composition of self vulcanizing rubber for prompt repairs of cuts, punctures, curb injuries and sand blisters on tires. It is made and sold by the Greenwald Rubber Co. (Buffalo, New York).

TRADE NEWS NOTES.

UNDER a ruling of the United States treasury department the Boston Belting Co., on the exportation of rubber covered rollers manufactured in part with the use of imported iron and steel rolls, will be allowed a drawback equal in amount to the duty paid on the imported materials, less 1 per cent.

The General Electric Co. have removed their New York offices from No. 44 Broad to 30 Church street, where they will occupy the seventeenth floor of one of the Hudson Terminal buildings.

The business of the Johns-Pratt Co. (Hartford, Connecticut), organized in 1886 to manufacture electrical insulating materials and steam packing from asbestos and india-rubber under the trade name of Vulcabeston, has steadily increased until it has become one of the important industries of the city, employing between 500 and 600 hands. The products are marketed by the H. W. Johns-Manville Co.

C. E. Conover Co., No. 101 Franklin street, New York, with a factory at Redbank, New Jersey, are marketing a new dress shield called the "Naiad," which is described as being transparent and capable of being laundered and sterilized.

The report of the Canadian General Electric Co. for the fiscal year ended December 31, 1907, shows gross profits of \$722,433, against \$855,675 for the preceding year.

High water mark in automobile tire product was reached at the factory of The Diamond Rubber Co. recently, when 900 tires were made and cured in one day. And still they are far behind their orders.

The Diamond Rubber Co. (Akron, Ohio), as an adjunct to their very complete insulated wire equipment, are installing a wire drawing plant, which will allow them to purchase copper in the ingot and draw all sizes of wire needed in their work.

The Archer Rubber Co. (Milford, Massachusetts) have leased quarters in a building adjoining their factory, with the purpose of extending their facilities. The new premises will accommodate 25 additional hands.

William H. Stiles has withdrawn from Robinson & Stiles (New York) and become established as a broker in crude rubber at No. 97 Water street.

PERSONAL MENTION.

MR. M. WACHTER, mentioned in THE INDIA RUBBER WORLD March 1, 1905 (page 209) as being well known in the United States as a factory superintendent in insulated wire work, and going then to accept a position with the Yokohama Insulated Wire Co., in Japan, was referred to recently in the *Times of Ceylon* as stopping at Colombo to study the plantation rubber situation, while on his way to Berlin to join the staff of the *Gummi-Zeitung*.

Mr. James F. Giles, of the American Hard Rubber Co. (New York), who is now in Europe, is expected to return about July 10.

Mr. Charles R. Flint, formerly so prominent in the rubber trade, is mentioned in the newspapers as having visited Mr. Thomas A. Edison at his laboratory in New Jersey, to introduce Mr. Wu Ting-fang, the Chinese minister at Washington, who is studying various American inventions and particularly the subject of aeroplanes.

Mr. R. E. Galleher, secretary of the New York Insulated Wire Co. (New York), who is touring Europe, is expected to return during July.

When this reaches the reader's eye, Mr. H. E. Raymond, vice president of The B. F. Goodrich Co. (Akron, Ohio), will be in London, on his usual annual European visit, and Mr. B. G. Work, president of the company, will be on the Atlantic, returning home after six weeks in England, Germany, and France.

A large reception was given by Mr. Augustus O. Bourn, Jr., at Hartley Hall, Columbia University, New York, on May 26, in celebration of the conferring of the degree of master of arts upon him by the faculty.

TRADE NEWS NOTES.

THE Artificial Rubber Co. was incorporated May 14, 1908, under the laws of Massachusetts, with a capital authorized of \$50,000. Incorporators: Charles E. Estey, president, Malden, Mass.; W. G. Burns, treasurer, Boston; and Julien E. Renton, Cambridge, Mass.

Dow Tire Co. (New York) have removed their offices from No. 104 West Forty-second street to Sixty-eighth street and Broadway.

The directors of the Manufactured Rubber Co. (Philadelphia) have declared the regular quarterly dividend of 1½ per cent. on the preferred stock, payable on June 1.

At the factory of the Goodyear Rubber Co., at Middletown, Connecticut, which had been closed for two weeks for general repairs, work was resumed on May 20, with the usual force and on full time.

The Apsley Rubber Co. will entertain at Hudson, Massachusetts, on June 6, a party from New York, embracing the members of the firms of Merritt, Elliott & Co., and Clafin, Thayer & Co., distributors of the Apsley Rubber Co.'s products, and the salesmen of these firms. Including the foreman of the various departments of the factory, at Hudson, there will be about 100 guests at the banquet to be given by President Apsley on the evening of the date mentioned.

The fire which destroyed the dismantled factory at Colchester, Connecticut, used formerly by the Colchester Rubber Co., mentioned on another page of this paper, is supposed to have been of incendiary origin. The loss is estimated at about \$40,000.

UNITED STATES RUBBER CO.'S ISSUES.

TRANSACTIONS on the New York Stock Exchange for four weeks, ending May 23:

COMMON STOCK.

Week	May 2	Sales	3,085 shares	High	21½	Low	20½
Week	May 9	Sales	9,200 shares	High	23½	Low	20½
Week	May 16	Sales	14,125 shares	High	26	Low	22½
Week	May 23	Sales	15,620 shares	High	26½	Low	24½

For the year—High, 26½, May 18; Low, 17½, Feb. 26.

Last year—High, 52½; Low, 13½.

FIRST PREFERRED STOCK.

Week	May 2	Sales	480 shares	High	83½	Low	82
Week	May 9	Sales	1,220 shares	High	84½	Low	83
Week	May 16	Sales	5,100 shares	High	92	Low	84
Week	May 23	Sales	3,400 shares	High	95	Low	91½

For the year—High, 95, May 19; Low, 76, Feb. 19.

Last year—High, 109½; Low, 61½.

SECOND PREFERRED STOCK.

Week	May 2	Sales	... shares	High	..	Low	..
Week	May 9	Sales	400 shares	High	52	Low	51
Week	May 16	Sales	610 shares	High	57	Low	52½
Week	May 23	Sales	2,900 shares	High	61	Low	60

For the year—High, 61½, Jan. 23; Low, 42, Feb. 21.

Last year—High, 78½; Low, 39.

NEW TRADE PUBLICATIONS.

THE DIAMOND RUBBER Co. (Akron, Ohio) have issued a new catalogue of Mechanical Rubber Goods, which is even fuller in detail than its hitherto very complete catalogues, illustrating a number of articles which are shown in few or no other catalogues in the trade. Hard rubber goods are included. [5" x 7", 127 pages.]

TREMONT RUBBER Co. (Boston), so long prominent in the rubber footwear trade, have added a clothing department and send us their first catalogue of goods in this line. [3¾" x 6½", 26 pages.]

HABIRSHAW WIRE Co. (New York) issue a Price List of National electrical code rubber covered wires and cables, Standard rubber insulated conductors, and other items. [4½" x 6¾", 35 pages.]

ALSO RECEIVED.

RUBBERTEX Cloth and Paper Co., Logansport, Indiana=Rubbertex. 8 pages. Lonabond. 8 pages.
F. B. Parks Co., Grand Rapids, Michigan=Rubber Cement. 4 pages.

A RETIRED RUBBER MAN.

WHEN Mr. Henry C. Corson, vice president of The B. F. Goodrich Co., retired from active business, sold his beautiful home in Akron, and started out to spend the rest of his life in travel and study, the rubber trade lost one who had been for years a potent factor in its growth. Then when the news came of his sudden loss of vision, and the long course of treatment under Parisian specialists that followed, sorrow was as universal as is the gladness that now greets the news of his complete recovery from threatened blindness.

The larger part of Mr. Corson's career centers about the Goodrich company. Born in New Jersey, his early life was spent in travel—indeed, tradition says that he was for a time a sailor, then a newspaper man on a New York daily, later private secretary for a Carolina governor, and in 1881 stenographer, and secretary for the late Dr. Benjamin F. Goodrich. How he rose to be treasurer and vice president of the great company has many times been told. They still tell also in Akron of the wide range of his philanthropic work, of gifts of money and effort to church, society, city, and individual, and now that he is in company with his charming wife, carrying out his original plan of seeing the whole world with his own eyes, the warmest sort of God speed goes out to him from his many friends in the trade.



HENRY C. CORSON.

"RUBBER" MADE FROM PEAT.

THE editor of *The Car*, a London motoring journal of a high class, is Lord Montagu, whose acquaintance with automobiles and their use is not to be disputed. We do not know the extent of his familiarity with india-rubber, however, nor do we know for a fact that he is the author of this editorial paragraph from a recent number of his magazine:

WHEN a friend brought me this week a piece of rubber manufactured from peat by a process which I am not at liberty at present to divulge, I cannot say that I was astonished—for everything is possible. But it makes one reflect how marvellous has been the progress of invention, and how nature is daily being imitated in various ways. All I can say about this rubber, a piece of which I have tested in every way, is that it presents the true features of rubber, that it is resilient, and that one cannot imagine anything more like rubber than this rubber itself—even to the smell. Whether it will stand wear and tear when incorporated in tires on the road is another point, and this question can only be answered by actual use. But I may mention that one or two of the greatest experts in the rubber trade have declared that commercially and structurally it is indistinguishable from the product of *Ficus elastica*. I am told that it will cost about one-fourth the price of rubber. If it stands further tests to be made, and can be manufactured in commercial quantities, it may in time displace the natural commodity.

MR. BALLOU GOES FISHING.

FOR a long time there has been a well founded suspicion among rubber men that Mr. Walter S. Ballou, president of The Joseph Banigan Rubber Co. and member of the executive committee of the United States Rubber Co. was fond of fishing. There has also been a prevailing idea that there are fine fish all over New England that are waiting expressly for Mr. Ballou to come along, refusing to rise to anybody else.

This idea seems to have been amply corroborated by the result of a four days' fishing trip that Mr. Ballou, in company with Mr. Horace C. Pratt, president of the Amsterdam Rubber Co., of New York, took early in May. They struck for Washington county, Maine, which is the most easterly piece of land in the United States. They took the Maine Central road and disembarked at Forest Station, and then did 14 miles through the woods to Topsfield.

The fishing season in Maine opens when the ice runs out of the rivers. The ice very accommodatingly ran out of the river



MR. BALLOU'S FINE CATCH.

the day before their arrival. They had heard that there were some land-locked salmon, or as the Indians call them "Ouiananische," in Musquash lake, which is close to Topsfield. Evidently the report was fairly correct, for inside of two hours Mr. Ballou had landed three separate and distinct ouiananisches, the first one weighing 6½ pounds, the second 9 pounds, and the third 8½ pounds.

The picture shown here is a snapshot taken by the guide (who minglest art with sportsmanship) of Mr. Ballou viewing with a look of warrantable satisfaction the 6½ and the 9 pounders. In addition to fishing in the lake, they tried for some square tailed brook trout in the brook that feeds the lake, and there Mr. Ballou also made a record with a 6½ pounder. Mr. Pratt also met with phenomenal success, but the heaviest weights all rose to Mr. Ballou.

They stopped at "The Birches," an ideal place for fishermen, conducted by Mr. Maher in Topsfield, and if the proprietor of that place isn't compelled next season to store away his guests six in a room, with cots on the roof, it will not be due to any lack of advertising on the part of Mr. Ballou and Mr. Pratt.

A RECENT importation at Denver, Colorado, of safety fuse was claimed by the importer to be composed in chief value of cotton, but the collector declared the chief value to be in gutta-percha, and was sustained by the general appraisers.

FIRE HOSE FOR NEW YORK.

SEALED proposals for supplying an important amount of fire hose were received by the fire commissioner of New York city up to May 14, and contracts were awarded in consequence for 71,500 feet. The details are embraced in the following summary of contracts for supplying the city with fire hose made since January 1:

FOR MANHATTAN BOROUGH.		
30,000 feet 2½ inch rubber hose—The Republic Co., \$1.04 per foot		\$31,200
30,000 feet 3 inch (high pressure) rubber hose—The Diamond Rubber Co.; \$1.73½ per foot		52,050
20,000 feet 3 inch rubber hose—The Republic Rubber Co.; \$1.54 per foot		30,800
7,000 feet 3½ inch rubber hose—The B. F. Goodrich Co., of New York; \$2.20 per foot		15,400
3,000 feet 3 inch rubber hose—The Republic Rubber Co.; \$1.64 per foot		5,740
26,000 feet 2½ inch rubber hose—The Republic Rubber Co.; \$1.14½ per foot		29,770
5,000 feet 1½ inch rubber hose—The B. F. Goodrich Co., of New York; 68 cents per foot		3,400
		121,000
		\$168,360

FOR BROOKLYN BOROUGH.		
10,000 feet 2½ inch rubber hose—The Diamond Rubber Co.; \$1.13½ per foot		\$11,350
10,000 feet 3 inch (high pressure) rubber hose—The Republic Rubber Co.; \$1.64 per foot		16,400
3,000 feet 3½ inch rubber hose—The B. F. Goodrich Co., of New York; \$2.20 per foot		6,600
7,500 feet 3 inch rubber hose—The Republic Rubber Co.; \$1.64 per foot		12,300
25,000 feet 2½ inch rubber hose—The B. F. Goodrich Co., of New York; \$1.17 per foot		29,250
5,000 feet 1½ inch rubber hose; 68 cents per foot		3,400
		60,500
		\$79,300

For purposes of comparison the following table is introduced, showing the amount of fire hose of all kinds received by the city, the dates in the first column relating to the years in which the hose was bid on, rather than the dates delivered:

YEAR.	Cost to City.	Length in Feet.
1904.	\$78,785.25	92,500
1905.	74,000.00	79,500
1906.	96,258.00	83,100
1907.		...
1908 (to date).....	247,660.00	181,500

The advertisement for bids to be opened on May 14 specified several items of cotton fire hose, but no estimates were received for this class of goods. There were specified 2500 feet of 3 inch and 10,000 feet of 2½ inch cotton hose for Brooklyn borough, and 1500 feet of 3 inch and 9000 feet of 2½ inch cotton hose for Manhattan—a total of 23,000 feet.

OBITUARY.

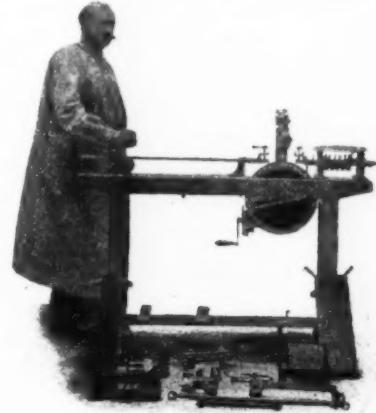
SAMUEL F. RANDOLPH, JR., died on May 21, at his residence in New York, after a brief illness, in his thirty-third year. He commenced his business career as a salesman of mechanical rubber goods for the Commonwealth Rubber Co. (New York) in 1895, when he was 20 years of age. In 1897 he entered the employment of the Diamond Rubber Co., in which his ability as a salesman was recognized and secured for him rapid promotion, until he became the manager of the Diamond Rubber Co., in the Eastern states. He resigned this position in 1905, attracted by the possibilities in the automobile business, and formed the Metropolitan Auto Co., of New York. Selling out his interest in this company in May, 1906, he took up an invention for ventilated cushions, formed a company to hold the patent rights and manufacture the springs, and then, having demonstrated the commercial success of the invention, organized a selling company called the Randolph-Edwards Co. This company became the selling agent for the springs, and for a number of other accessories of automobiles and Pullman cars. At the time of his death he was the president of the Randolph-Edwards Co. Mr. Randolph was the son of Samuel F. Randolph, long connected with the rubber goods trade and now identified with the automobile interest in New York.

RICHARD HALE SMITH, president and treasurer of the R. H.

Smith Manufacturing Co., of Springfield, Massachusetts, and chairman of the board of public works of that city, died on May 12, in his sixty-third year. Mr. Smith was born at Chicopee, Mass., and built up an extensive business in rubber stamps, and particularly in vulcanizers and other apparatus for the stamp trade. He was a veteran of the civil war and a member of the Masonic fraternity.

THE "P. B." DYNAMOMETER.

IN an earlier issue of this journal (September 1, 1907, page 382) was described the very ingenious "P. B." dynamometer, a French invention, designed particularly for testing rubber, but adapted also for numerous uses. This device has attracted wide attention and, it is understood, has been installed in a number of important rubber factories. The dynamometer may be em-



"P. & B." DYNAMOMETER.

ployed for tensile tests on india-rubber or fabric; for compression tests, for carrying out tests by means of repeated bending, and for abrasion tests. The person standing next to the apparatus in the illustration will render clear by comparison the dimensions of the latter. The dynamometer is exploited by A. D. Cillard, fils, at 49, rue des Vinaigners, Paris. The New York address is The Monolith, an important new office building.

Dr. Walther Thiel has severed his connection with the Vereinigte Gummiwaren-Fabriken Harburg-Wien. After having taken his degree in Leipzig, and becoming a fellow of the Institute of Great Britain and Ireland, he was for several years connected with Oxford University. Since 1896 he has been engaged in the rubber trade, both in England and Germany, where he has accumulated a thorough knowledge of rubber and the rubber manufacture. In all probability he will be heard from in the United States, and we wish him every success in his future ventures.

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show an advance, as compared with last month:

Old rubber boots and shoes—domestic.....	6 ½ @ 7
Old rubber boots and shoes—foreign.....	6 @ 6 ½
Pneumatic bicycle tires.....	6 @ 6 ½
Automobile tires.....	6 @ 6 ½
Solid rubber wagon and carriage tires.....	7 @ 8
White trimmed rubber.....	10 ½ @ 11
Heavy black rubber.....	4 ½ @ 4 ½
Air brake hose.....	3 ½ @ 4
Garden hose.....	2 @ 2 ½
Fire and large hose.....	2 ½ @ 1 ½
Matting.....	1 ½ @ 1 ½

Review of the Crude Rubber Market.

A DECIDED advance in rubber prices has taken place in all markets, the quotations at this date being the highest of the year, so far. All accounts agree that buying at primary markets for American account has been much more active of late. The automobile tire industry in the United States has been exceptionally active this season, calling for enough rubber to influence market conditions materially. The resumption of work by the rubber footwear factories, after an unusually long period of shutting down, has also stimulated the demand for raw material. The extent of work in the other branches of the American rubber industry still remains below normal, however, and a disposition toward caution seems likely to prevail until the political situation becomes clearer, this being a presidential election year.

At the monthly sale in Antwerp on May 21 decided advances were realized over the brokers' estimation, the average gain being about 75 centimes per kilogram (about 6 2-3 cents per pound).

Arrivals of rubber of all kinds at Pará for the crop year are still much smaller than last year, though in excess of the figures for any season prior to 1906-07. The figures are 33,185 tons to May 18, 1908, against 36,505 tons to the end of May, 1907, and 32,840 tons to May 31, 1906.

R. O. Ahlers & Co., of Pará, report May 11: "Since our last reports the market has steadily risen, and as European buyers only seemed to be interested in seeing prices rise, without buying much, nearly all purchases have been made for American account. Entries continue moderate, and in many places work is stopped on account of the extremely high water in all the tributaries."

Following are the quotations of New York for Para grades one year ago, one month ago, and May 29, the current date:

	June 1, '07.	May 1, '08.	May 29.
Islands, fine, new.....	110 @ 111	79 @ 80	89 @ 90
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	112 @ 113	83 @ 84	92 @ 93
Upriver, fine, old.....	114 @ 115	85 @ 86	94 @ 95
Islands, coarse, new.....	62 @ 63	43 @ 44	46 @ 47
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	87 @ 88	58 @ 59	64 @ 65
Upriver, coarse, old.....	none here	none here	none here
Cauchu (Peruvian), sheet.....	71 @ 72	45 @ 46	49 @ 50
Cauchu (Peruvian), ball.....	83 @ 84	56 @ 57	61 @ 62
Ceylon (Plantation), fine sheet.....	134 @ 135	87 @ 88	102 @ 103

AFRICAN.

Sierra Leone, 1st quality.....	74 @ 75	Lopori ball, prime.....	78 @ 79
Massai, red.....	74 @ 75	Lopori strip, prime.....	60 @ 61
Benguella.....	86 @ 49	Madagascar, pinky.....	67 @ 68
Accra flake.....	15 @ 16	Ikelemba.....	none here
Cameron ball.....	47 @ 48	Soudan niggers.....	54 @ 55

CENTRALS

Esmeralda, sausage.....	62 @ 63	Mexican, scrap.....	61 @ 62
Guayaquil, strip.....	60 @ 47	Mexican, slab.....	44 @ 45
Nicaragua, scrap.....	50 @ 60	Mangabeira, sheet.....	66 @ 47
Panama.....	44 @ 45	Guayule.....	29 @ 30

PARA RUBBER VIA EUROPE.

POUNDS.

APRIL 22.—By the *Bovic*—Liverpool:

W. L. Gough Co. (Cauchu)..... 4,500

APRIL 23.—By the *Carmania*—Liverpool:

New York Commercial Co. (Fine) 74,000

Robinson & Stiles (Coarse)..... 2,500 76,500

APRIL 29.—By the *Campania*—Liverpool:

New York Commercial Co. (Fine) 39,000

W. L. Gough Co. (Cauchu)..... 5,000 44,000

APRIL 30.—By the *Pennsylvania*—Hamburg:

W. L. Gough Co. (Cauchu)..... 10,000

MAY 1.—By the *Narare*—Bolívar:

G. Amsinck & Co. (Fine)..... 2,500

G. Amsinck & Co. (Coarse)..... 2,500 5,000

MAY 1.—By the *Lusitania*—Liverpool:

New York Commercial Co. (Fine) 25,000

New York Commercial Co. (Coarse)..... 24,000 49,000

MAY 7.—By the *Panama*—Molfendo:

A. S. Henry (Cauchu)..... 8,500

MAY 8.—By the *Caronia*—Liverpool:

New York Commercial Co. (Fine) 120,000

New York Commercial Co. (Coarse)..... 11,500 131,500

MAY 9.—By the *Mauritania*—Liverpool:

New York Commercial Co. (Fine)..... 65,000

MAY 11.—By the *Blucher*—Hamburg:

New York Commercial Co. (Fine) 13,500

New York Commercial Co. (Coarse)..... 6,000

W. L. Gough Co. (Fine)..... 2,000 21,500

EAST INDIAN.

Assam 75 @ 76 26 @ 27

Borneo Per Kilo.

Late Pará cables quote: Upriver, fine 5 \$25

Per Kilo. Upriver, coarse 3 \$25

Islands, fine 4 \$300 Exchange 15 7/32d.

Islands, coarse 2 \$300

Latest Manáos advices: Upriver, fine 5 5/32d.

Upriver, coarse 3 \$350

Upriver, coarse 3 \$350

NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER).

1008. 1907. 1906.

Upriver, fine 78 @ 84 1.15 @ 1.18 1.25 @ 1.28

Upriver, course 55 @ 58 .91 @ .94 .92 @ .95

Islands, fine 75 @ 80 1.14 @ 1.16 1.22 @ 1.25

Islands, coarse 42 @ 44 .66 @ .68 .70 @ .74

Cametá 44 @ 48 .71 @ .72 .72 @ .76

[Equal to 20 3/4 cents per pound.]

4,239 kiles Soudan niggles 5.75

The offerings included two small lots for account of the American Congo Co.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

APRIL 27.—By the *Dunstan*, from Manáos and Pará:

IMPORTERS. FINE. MEDIUM. COARSE. CAUCHO. TOTAL.

New York Commercial Co. 62,000 27,000 42,900 147,000= 279,900

General Rubber Co. 118,000 26,100 93,300 1,900= 241,300

A. T. Morse & Co. 6,000 3,700 2,200 110,200= 122,100

Edmund Reeks & Co. 1,800 15,200 67,000= 84,000

Poel & Arnold 6,800 41,800 24,800= 73,400

Wm. E. Peck & Co. 5,700 11,200= 16,900

Hagemeyer & Brunn 11,800 24,500= 36,300

TOTAL 206,000 63,600 233,100 350,900= 853,600

MAY 2.—By the *Marenhense*, from Manáos and Pará:

General Rubber Co. 98,700 20,000 52,900 800= 172,400

New York Commercial Co. 45,400 8,600 38,500 42,100= 134,600

Poel & Arnold 5,000 700 35,200 61,700= 102,600

A. T. Morse & Co. 43,900 2,500= 46,400

C. P. dos Santos 30,500= 30,500

Wm. E. Peck & Co. 16,100 10,600= 26,700

Hagemeyer & Brunn 12,100 4,600 3,300= 20,000

Edmund Reeks & Co. 6,800 400 2,600= 9,800

TOTAL 184,100 34,300 217,500 107,100= 543,000

MAY 15.—By the *Sergipe* from Pará:

Lawrence Johnson & Co. 41,800 12,100 11,100 7,500= 72,500

MAY 15.—By the *Cearáense* from Manáos and Pará:

New York Commercial Co. 28,700 9,100 56,800 502,300= 560,900

A. T. Morse & Co. 156,900 45,500 99,100 11,700= 313,200

General Rubber Co. 140,500 31,300 108,500 4,000= 284,300

Poel & Arnold 30,200 11,000 36,200 73,800= 151,200

Hagemeyer & Brunn 13,200 10,800= 33,000

C. P. dos Santos 47,700 10,700= 58,400

Wm. E. Peck & Co. 10,700 15,800= 26,500

Edmund Reeks & Co. 4,600 11,200= 15,800

TOTAL 384,800 96,900 395,100 602,500= 1,479,300

MAY 14.—By the *Etruria*—Liverpool:

New York Commercial Co. (Fine) 22,500

MAY 16.—By the *Lucania*—Liverpool:

General Rubber Co. (Fine) 185,000

Robinson & Stiles (Coarse) 3,500 191,500

MAY 20.—By the *Mesaba*—London:

General Rubber Co. (Fine) 80,000

MAY 21.—By the *Carmania*—Liverpool:

New York Commercial Co. (Fine) 150,000

New York Commercial Co. (Coarse) 40,000

A. T. Morse & Co. (Fine) 34,000

General Rubber Co. (Fine) 28,000 252,000

MAY 22.—By the *Lusitania*—Liverpool:

New York Commercial Co. (Fine) 85,000

General Rubber Co. (Fine) 38,000 123,000

MAY 22.—By the *Waldsee*—Hamburg:

New York Commercial Co. (Fine) 15,000

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it **does not blow under cure.**

WRITE FOR PRICES.

Massachusetts Chemical Co.
WALPOLE, MASS.

Operates Walpole Rubber Works; Walpole Varnish Works.

SYNTHETIC ARYAN ELECTRICIAN ON RUBBER.

[FROM THE "INDIA REVIEW."]

MR. C. S. NARAYANASWAMY ALVAR, electrician, of Triplicane, Madras, writes to us:

"The rubber expert in the Encyclopaedia Britannica, writing on the subject of gutta-percha, laments the loss of the gutta-percha as they are being felled down and destroyed every year by some tens of thousands. You say that T. C. Bridges says that there is a colossal fortune awaiting the inventor who would find out a perfect substitute for india-rubber or gutta-percha.

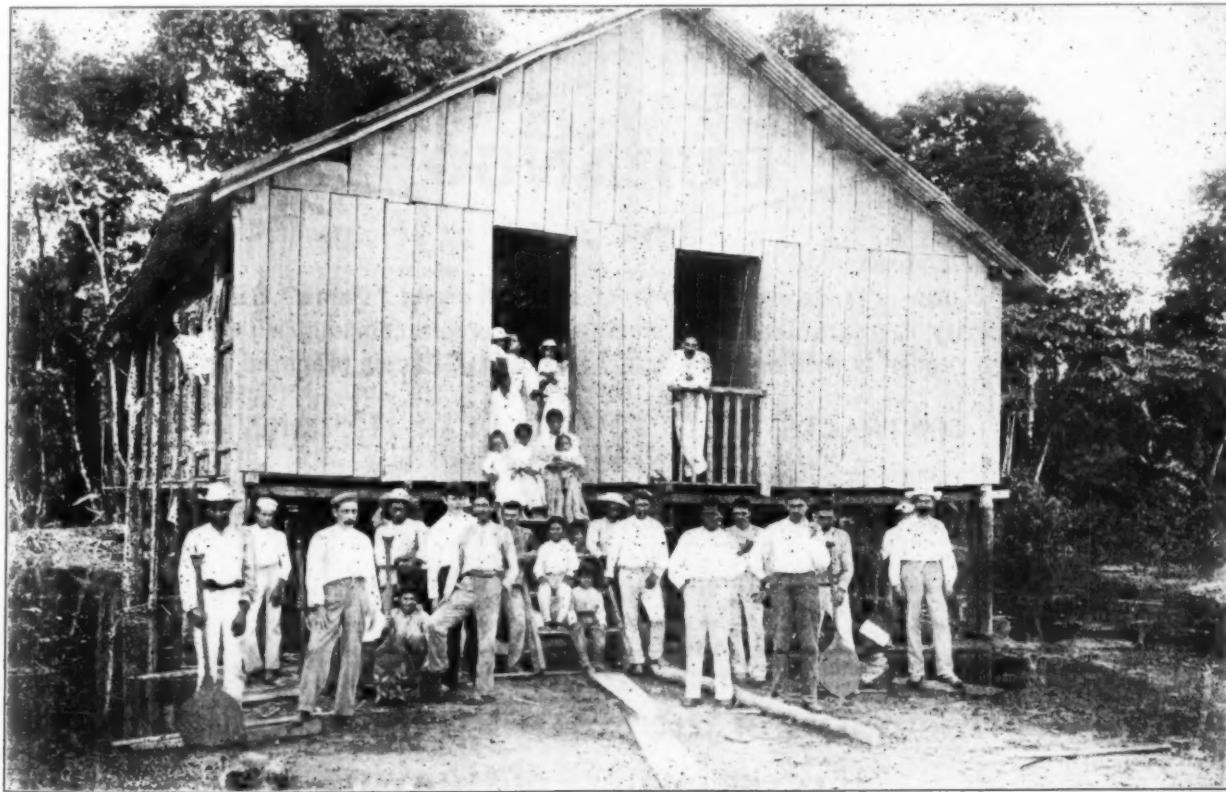
"Well, sir, in my experience as a research student in synthetic Aryan chemistry, I have come by the result that either rubber or gutta-percha is precipitated from many of the milk giving indigenous, spontaneous, wild growing plants of the many of the *Euphorbiaceæ*, *Asclepiadæ* and *Urticaceæ* genus. To whomso-

ever it may be of interest to make out a commercial paying business, I am prepared to demonstrate the same."

BRIEF MENTION.

EXPORTS of balata from British Guiana during the first quarter of 1908 were 88,594 pounds, against 106,605 pounds same period last year. Rubber exports increased from 1,225 to 1,943 pounds.

Mr. H. A. Wickham, who was sent out from the Kew Gardens in 1876-77 to Brazil, to secure seeds of the *Hevea Brasiliensis* for introduction into the Far East—which work resulted in the establishment of rubber culture in Ceylon and Malaya—appears not to have lost his interest in rubber. The *Malay Mail* reports that the state council of Selangor has approved his application for a patent on "an apparatus for curing india-rubber."



RUBBER BARRACKS, BOCCO DO ROSINHO DA LIBERDADE, ON THE RIO JURUA, BRAZIL.

GUAYULE

WHEN PROPERLY CURED AND MIXED WITH OTHER COMPOUNDS
IS THE CHEAPEST RUBBER ON THE MARKET

**There is As Much Difference Between the Various Brands of Guayule
 as Between Fine Para and Shoddy**

Guayule made from old, sun exposed shrub is **dead, dirty and sticky**, and no amount of washing will make it clean, while rubber made from freshly cut, selected shrub, has **life, low percentage of resin and is practically clean**.



has been on the market for several years and is known to be the best Guayule made as to life, strength, purity and low percentage of resin.

There is a large demand for a specially prepared Guayule, dry and ready for use, which we have met in



As this rubber is made exclusively from our high grade "Parra" Guayule, uniformity and absolute purity is guaranteed. No mixing in of cheap compounds to bring down the price. Durango rubber is nothing but Parra brand pure Guayule prepared so that anybody can use it.

**CONTRACTS MADE FOR REGULAR MONTHLY
 OR WEEKLY DELIVERIES**

For Samples and Quotations apply to

ED. MAURER
 97 Water St., NEW YORK

**Sole Representative of the MADERO interests in Mexico,
 largest owners of Guayule**

CENTRALS.

	POUNDS.
APRIL 21.—By the <i>Byron</i> =Bahia:	
Poel & Arnold..... 20,000	
New York Commercial Co..... 11,500	31,500
APRIL 21.—By the <i>El Siglo</i> =Galveston:	
Edward Maurer..... *22,500	
APRIL 22.—By the <i>Bovic</i> =Liverpool:	
Poel & Arnold..... 11,500	
APRIL 23.—By the <i>Momus</i> =New Orleans:	
A. T. Morse & Co..... 3,500	
Eggers & Heinlein..... 1,500	
G. Amsinck & Co..... 1,000	
K. Mandel & Co..... 1,000	7,000
APRIL 22.—By the <i>Finance</i> =Colon:	
Meyer Hecht..... 7,000	
G. Amsinck & Co..... 5,500	
W. R. Grace & Co..... 3,500	
A. Rosenthal Sons..... 1,500	
New York & Mexican Co..... 1,000	
Roldan & Van Sickel..... 1,000	19,500
APRIL 27.—By the <i>Espereanza</i> =Colon:	
J. Brandon & Bros..... 7,500	
Hirzel, Feltmann & Co..... 1,000	8,500
APRIL 25.—By the <i>Merro Castle</i> =Frontera:	
Harburger & Stack..... 7,000	
Strube & Ulitz..... 2,500	
E. Steiger & Co..... 2,500	
Graham Hinkley Co..... 2,500	
American Trading Co..... 1,500	
H. Marquardt & Co..... 1,500	
In Transit..... 2,500	20,000
APRIL 27.—By the <i>Vigilancia</i> =Tampico:	
Continental-Mexican Rubber Co..... *27,500	
Edward Maurer..... *19,000	*46,500
APRIL 27.—By the <i>Zulio</i> =Maracaibo:	
R. Gallego & Co..... 4,000	
Silvia & Bandro..... 1,500	5,500
MAY 1.—By the <i>El Dia</i> =Galveston:	
Continental-Mexican Rubber Co..... *55,000	
MAY 2.—By the <i>Mexico</i> =Frontera:	
Harburger & Stack..... 9,000	
E. Steiger & Co..... 2,000	
H. Marquardt & Co..... 1,000	12,000
MAY 4.—By the <i>Cienguotes</i> =Tampico:	
Remsche & Helde..... *45,000	
Edward Maurer..... 11,000	
Flint & Co..... 4,000	*60,000
MAY 4.—By the <i>Advance</i> =Colon:	
Hirzel, Feltmann & Co..... 2,000	
Meyer Hecht..... 2,000	
Wessels & Kulemkamp..... 1,500	
Dumarest Bros..... 1,500	
Roldau & Van Sickel..... 1,000	
Andreas & Co..... 1,000	
C. Bernheim & Co..... 1,000	10,000
MAY 6.—By the <i>El Alba</i> =Galveston:	
Continental-Mexican Rubber Co..... *55,000	
MAY 6.—By the <i>Joachem</i> =Cartagena:	
Kunhardt & Co..... 5,000	
Roldau & Van Sickel..... 2,500	
American Trading Co..... 1,500	
Isaac Brandon & Bros..... 1,500	10,500
MAY 6.—By the <i>Valdesques</i> =Bahia:	
Poel & Arnold..... 34,000	
New York Commercial Co..... 22,500	
J. H. Rossback Bros..... 4,500	61,000
MAY 8.—By the <i>El Valle</i> =Galveston:	
Continental-Mexican Rubber Co..... *27,500	
MAY 7.—By the <i>Panama</i> =Colon:	
G. Amsinck & Co..... 3,000	
Piza, Nephews & Co..... 2,500	
Dumarest Bros. Co..... 2,500	
Columbian Tradg. Co..... 1,000	
Hirzel, Feltmann & Co..... 1,000	
W. R. Grace & Co..... 1,000	
Eggers & Heinlein..... 1,000	
L. Johnson & Co..... 1,000	13,000
MAY 11.—By the <i>El Siglo</i> =Galveston:	
Continental-Mexican Rubber Co..... *27,500	
MAY 11.—By the <i>Seneca</i> =Vera Cruz:	
American Trading Co..... 2,000	
H. Marquardt & Co..... 1,000	
In transit..... 1,000	4,000
MAY 12.—By the <i>Bayamo</i> =Tampico:	
New York Commercial Co..... *175,000	
Edward Maurer..... *110,000	
Poel & Arnold..... 9,000	
H. Marquardt & Co..... 2,500	
E. N. Tibbals & Co..... 3,500	*300,000
MAY 12.—By the <i>Allianca</i> =Colon:	
W. R. Grace & Co..... 3,500	
Hirzel, Feltmann & Co..... 3,000	
American Trading Co..... 1,500	
A. D. Straus & Co..... 1,000	9,000
MAY 14.—By the <i>Momus</i> =New Orleans:	
A. N. Rotholz..... 2,500	
Manhattan Rubber Mfg. Co..... 1,000	
G. Amsinck & Co..... 1,000	
K. Mandel & Co..... 1,000	5,500
MAY 16.—By the <i>Merida</i> =Frontera:	
Harburger & Stack..... 8,000	
E. Steiger & Co..... 7,500	
American Trading Co..... 3,000	
H. Marquardt & Co..... 1,000	
E. G. Phister..... 1,000	20,500

CENTRALS.

	POUNDS.		POUNDS.
MAY 18.—By the <i>Crown Prince</i> =Bahia:		MAY 19.—By the <i>Zeeland</i> =Antwerp:	
New York Commercial Co..... 13,500		A. T. Morse & Co..... 34,000	
Poel & Arnold..... 11,000		Henry A. Gould Co..... 9,000	43,000
A. D. Hitch & Co..... 11,000		May 21.—By the <i>Carmania</i> =Liverpool:	
A. Hersch & Co..... 6,000	41,500	George A. Alden & Co..... 30,000	
MAY 18.—By the <i>Finance</i> =Colon:		Henry A. Gould Co..... 2,500	
Meyer Hecht..... 4,000		Robinson & Stiles..... 1,500	34,000
G. Amsinck & Co..... 2,500		May 22.—By the <i>Walderssee</i> =Hamburg:	
Dumarest Bros. Co..... 2,500		A. T. Morse & Co..... 28,000	
George A. Alden & Co..... 2,000	11,000	General Rubber Co..... 15,000	
A. Rosenthal Sons..... 1,000		W. L. Gough Co..... 13,500	
MAY 18.—By the <i>Comus</i> =New Orleans:		George A. Alden & Co..... 5,500	
A. T. Morse & Co..... 1,500		Rubber Trading Co..... 21,000	73,000
United Fruit Co..... 1,000		May 23.—By the <i>Thornley</i> =Lisbon:	
A. Rosenthal Sons..... 1,000	3,500	General Rubber Co..... 112,000	
MAY 18.—By <i>El Sid</i> =Galveston:		EAST INDIAN.	
Continental-Mexican Crude Rubber Co..... *27,500			
MAY 18.—By the <i>Pretoria</i> =Hamburg:			
George A. Alden & Co..... 10,000			
MAY 19.—By the <i>Tennyson</i> =Bahia:			
Poel & Arnold..... 22,500			
A. D. Hitch & Co..... 10,000	32,500		
H. W. Peabody & Co..... 1,000	4,000		
MAY 20.—By the <i>Prins Willem</i> =Colon:			
A. Santos & Co..... 2,000			
Fred Probst & Co..... 1,000			
G. Amsinck & Co..... 1,000			
J. Brandon & Bros..... 1,000	5,000		
MAY 22.—By the <i>Sigismund</i> =Colombia:			
G. Amsinck & Co..... 2,500			
Graham Hinkley Co..... 1,500			
Eggers & Heinlein..... 1,000			
A. Held..... 500	5,500		
*This sign, in connection with imports of Centrals, denotes Guayule rubber.			
AFRICANS.			
	POUNDS.		POUNDS.
APRIL 22.—By the <i>Bovic</i> =Liverpool:			
Poel & Arnold..... 46,000			
APRIL 23.—By the <i>Carmania</i> =Liverpool:			
General Rubber Co..... 28,000			
George A. Alden & Co..... 18,000			
Poel & Arnold..... 7,000	54,000		
APRIL 25.—By the <i>Lincoln</i> =Hamburg:			
A. T. Morse & Co..... 51,000			
General Rubber Co..... 20,000	71,000		
APRIL 25.—By the <i>Lucania</i> =Liverpool:			
George A. Alden & Co..... 11,500			
Livesey & Co..... 2,500	14,000		
APRIL 27.—By the <i>California</i> =Bordeaux:			
General Rubber Co..... 33,500			
Livesey & Co..... 7,000	40,500		
APRIL 27.—By the <i>Avoca</i> =Hamburg:			
A. T. Morse & Co..... 34,000			
George A. Alden & Co..... 11,000	45,000		
APRIL 30.—By the <i>Pennsylvania</i> =Hamburg:			
Poel & Arnold..... 33,500			
Rubber Trading Co..... 6,500	40,000		
APRIL 25.—By the <i>Lusitania</i> =Liverpool:			
Poel & Arnold..... 22,500			
General Rubber Co..... 9,000			
Livesey & Co..... 3,500			
George A. Alden & Co..... 3,000	38,000		
MAY 2.—By the <i>Provence</i> =Havre:			
George A. Alden & Co..... 34,000			
W. L. Gough Co..... 2,000	36,000		
MAY 5.—By the <i>Finland</i> =Antwerp:			
A. T. Morse & Co..... 11,000			
George A. Alden & Co..... 4,500	15,500		
MAY 5.—By the <i>Minneapolis</i> =London:			
Robinson & Stiles..... 6,500			
W. L. Gough Co..... 2,500	9,000		
MAY 2.—By the <i>Lusitania</i> =Liverpool:			
General Rubber Co..... 11,500			
Henry A. Gould Co..... 11,500			
MAY 9.—By the <i>Sloterdyk</i> =Rotterdam:			
Poel & Arnold..... 55,000			
MAY 11.—By the <i>Blucher</i> =Hamburg:			
George A. Alden & Co..... 11,500			
MAY 12.—By the <i>Vaderland</i> =Antwerp:			
George A. Alden & Co..... 220,000			
A. T. Morse & Co..... 95,000			
General Rubber Co..... 25,000			
Poel & Arnold..... 22,500			
Joseph Cantor..... 22,500			
Rubber Trading Co..... 22,500	407,500		
MAY 14.—By the <i>Hudson</i> =Havre:			
General Rubber Co..... 33,500			
MAY 14.—By the <i>Etruria</i> =Liverpool:			
George A. Alden & Co..... 19,000			
Livesey & Co..... 5,000	24,000		
MAY 16.—By the <i>Lucania</i> =Liverpool:			
General Rubber Co..... 11,500			
George A. Alden & Co..... 9,000			
Livesey & Co..... 5,000	25,500		
MAY 16.—By the <i>Kaisser</i> =Hamburg:			
A. T. Morse & Co..... 19,000			
George A. Alden & Co..... 5,500			
Poel & Arnold..... 8,500	14,000		
BOSTON ARRIVALS.			
APRIL 3.—By the <i>Saxonia</i> =Liverpool:			
W. L. Gough Co., Africans..... 2,000			
George A. Alden & Co., Africans..... 11,500			
APRIL 11.—By the <i>Sylvania</i> =Liverpool:			
Rubber Trading Co., Africans..... 6,000			
APRIL 11.—By the <i>Georgian</i> =London:			
Livesey & Co., Africans..... 4,500			
George A. Alden & Co., Africans..... 4,500			
APRIL 17.—By the <i>Rosina</i> =Hamburg:			
W. L. Gough Co., Africans..... 22,000			
APRIL 22.—By the <i>Bohemian</i> =Liverpool:			
George A. Alden & Co., Africans..... 3,500			
APRIL 25.—By the <i>Sachsen</i> =Liverpool:			
Poel & Arnold, Africans..... 9,000			
TOTAL 63,000			



Vol. 38.

JUNE 1, 1908.

No. 3.

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PARA EXPORTS OF INDIA-RUBBER, APRIL, 1908 (IN KILOGRAMS).

NEW YORK.

EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.
Schrader, Gruner & Co.....	3,230	32,440	11,575	47,245	46,349	9,443	36,287	38,206	130,285	177,530					
Schoz, Hartje & Co.....	14,410	4,050	9,847	4,866	33,202	82,708	18,381	31,776	118,549	231,414	264,616				
Gordon & Co.....	86,965	16,455	83,681	.....	181,101	36,708	7,162	5,411	9,345	58,626	219,727				
Adelbert H. Alden.....	14,182	21,540	24,863	54,602	115,187	26,410	4,250	2,640	40,260	73,560	188,747				
E. Pinto Alves & Co.....	27,200	2,210	29,700	.....	59,110	37,230	3,740	38,280	.....	79,250	138,366				
K. Suarez & Co.....	1,600	320	2,660	752	5,334	76,252	6,196	4,741	20,066	107,995	113,327				
J. Marques & Co.....	6,800	510	20,460	.....	27,770	10,020	2,739	22,195	11,529	40,493	74,253				
R. O. Ahlers & Co.....	.....	.....	.....	.....	.....	56,033	.....	8,559	3,092	67,684	67,684				
Mello & Co.....	19,890	5,780	5,538	3,750	34,958	14,450	1,530	780	.....	16,760	51,718				
Pires, Teixeira & Co.....	4,420	.....	10,610	.....	15,030	9,690	.....	14,190	.....	23,880	38,910				
De Lagotellerie & Co.....	11,050	4,760	21,524	.....	37,334	1,546	.....	.....	.....	1,346	38,880				
Luis de Mendonça & Co.....	9,350	2,040	11,910	2,803	26,103	.....	.....	.....	.....	.....	26,103				
Singlehurst, Brocklehurst & Co.....	.....	.....	.....	.....	.....	5,113	.....	4,472	52	9,637	9,637				
Guilh Aug. de Miranda Co.....	3,006	310	2,947	1,244	7,507	.....	.....	.....	.....	.....	7,507				
Itacoatiara direct.....	.....	.....	.....	.....	.....	3,064	.....	2,093	1,577	6,734	6,734				
Manaos direct.....	120,794	29,944	91,567	209,834	452,139	519,383	78,527	125,942	438,304	1,162,152	1,614,293				
Total, April.....	313,696	91,140	347,747	289,426	1,042,018	924,956	131,968	277,366	681,718	2,016,000	3,058,026				
Total, March.....	682,575	172,165	447,252	117,301	1,419,293	1,409,736	232,279	330,802	830,652	2,803,469	4,222,762				
Total, February.....	1,049,175	230,591	493,147	164,208	1,937,121	1,832,458	235,386	524,020	991,539	3,583,403	5,520,524				
Total, January.....	851,402	160,204	450,219	160,837	1,622,662	1,341,043	211,060	378,900	616,237	2,547,240	4,169,902				

FORSYTH PATENT FOR PACKING WITH PLIABLE SHEET METAL INSERTION, SUSTAINED BY THE COURTS



Sheet Packing

U. S. Letters Patent, dated April 11, 1899 to James Bennett Forsyth, which has been the subject of litigation extending through the several United States Courts, to the United States Supreme Court, has been fully and broadly sustained, and covers PLIABLE SHEET METAL INSERTION PACKING in sheet, Tubular and other forms.



Tubular Gasket Packing

We are the sole manufacturers of such packings and infringers will be prosecuted.

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All Kinds for all purposes

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Sheet and rod—great variety

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Uniformly flexible
The most economical

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1828

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COTTON and LINEN HOSE of all grades, both plain and rubber-lined. All sizes.

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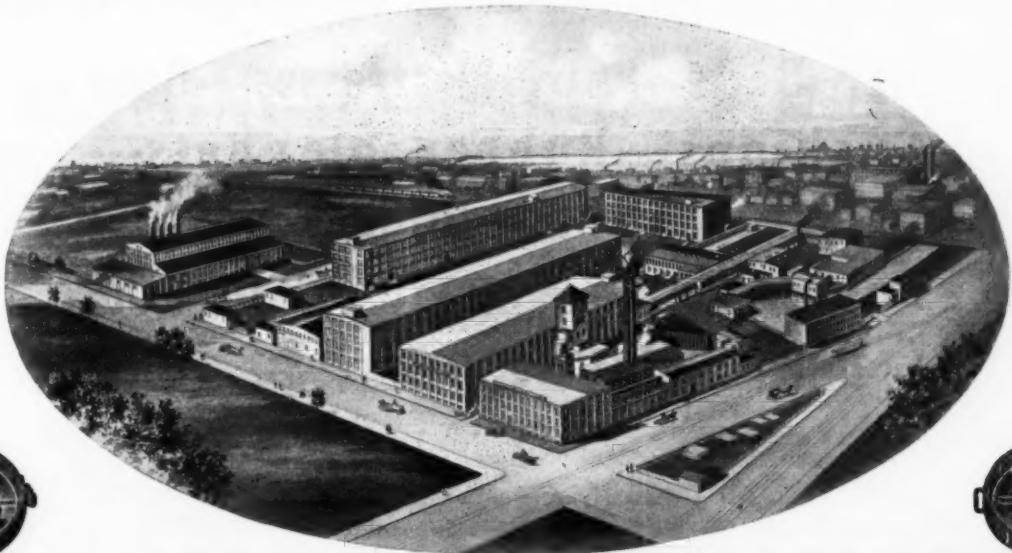
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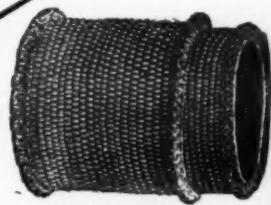
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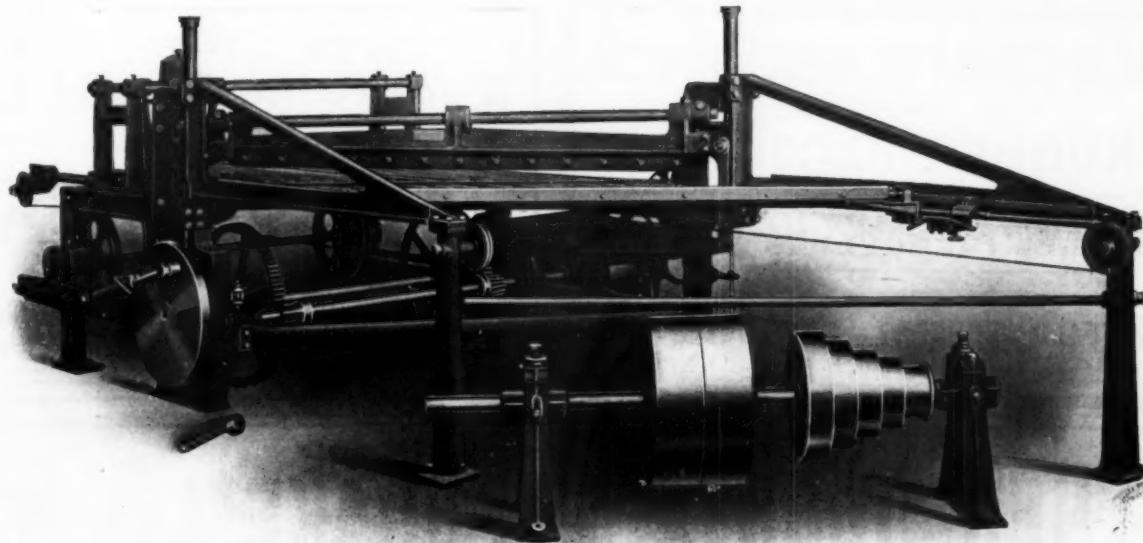
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GUARANTEED
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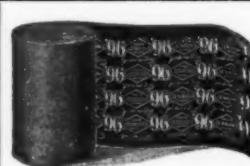
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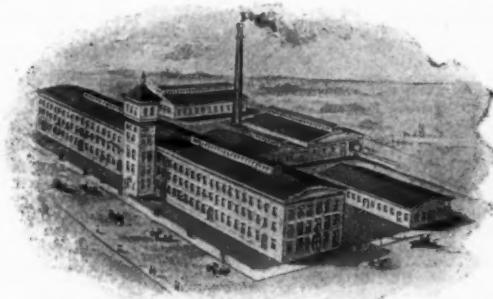


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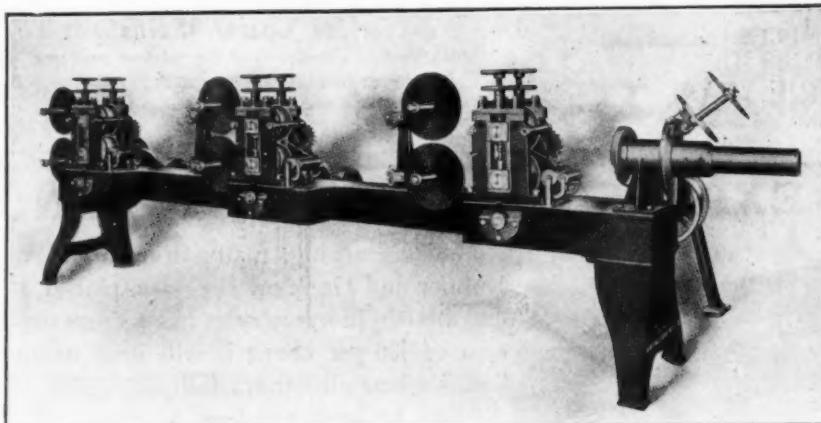
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PAT. MAR. 15. 1898

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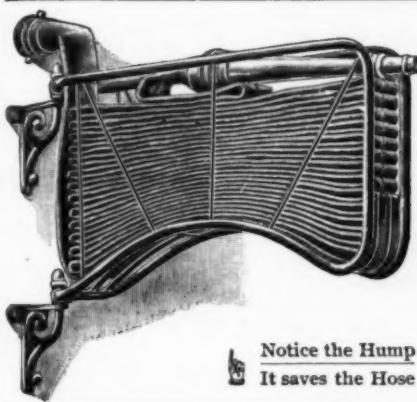
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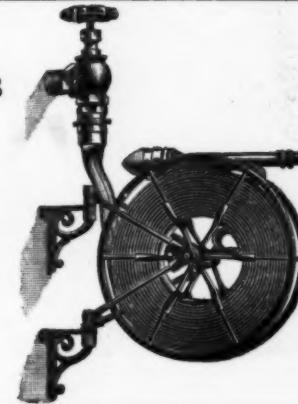
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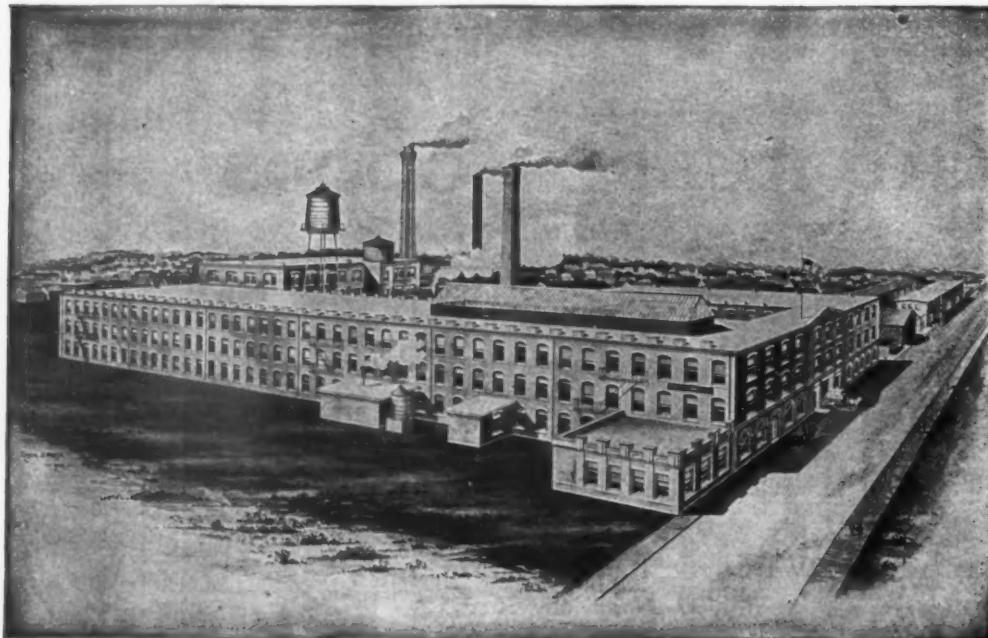
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Bailey's
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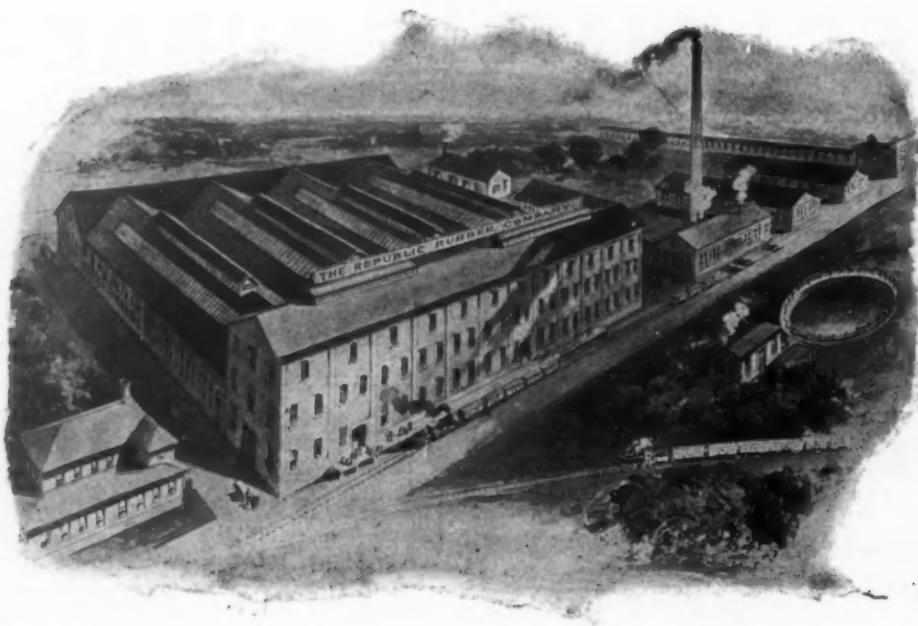
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Makes a Steam Flange and Hot Water Joint Instantly.

Don't have to use wire and cloth
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Can't blow it out.



Thousands of Imitators.

No Equal.

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THE COLOR OF RAINBOW PACKING IS RED.

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We would call the attention of those desiring to purchase Fire Hose to the fact that we have in the New York Fire Department, Hose which has been in constant use for over eight years and shows no sign of giving out.

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Our Peerless Steel-Clad Suction Hose has become a general favorite among Firemen. It has been adopted as the standard by some of the largest City Fire Departments in the United States and foreign countries.
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Lakeside,
Red Label,
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Made any diameter.

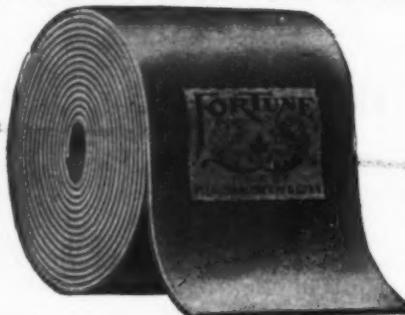


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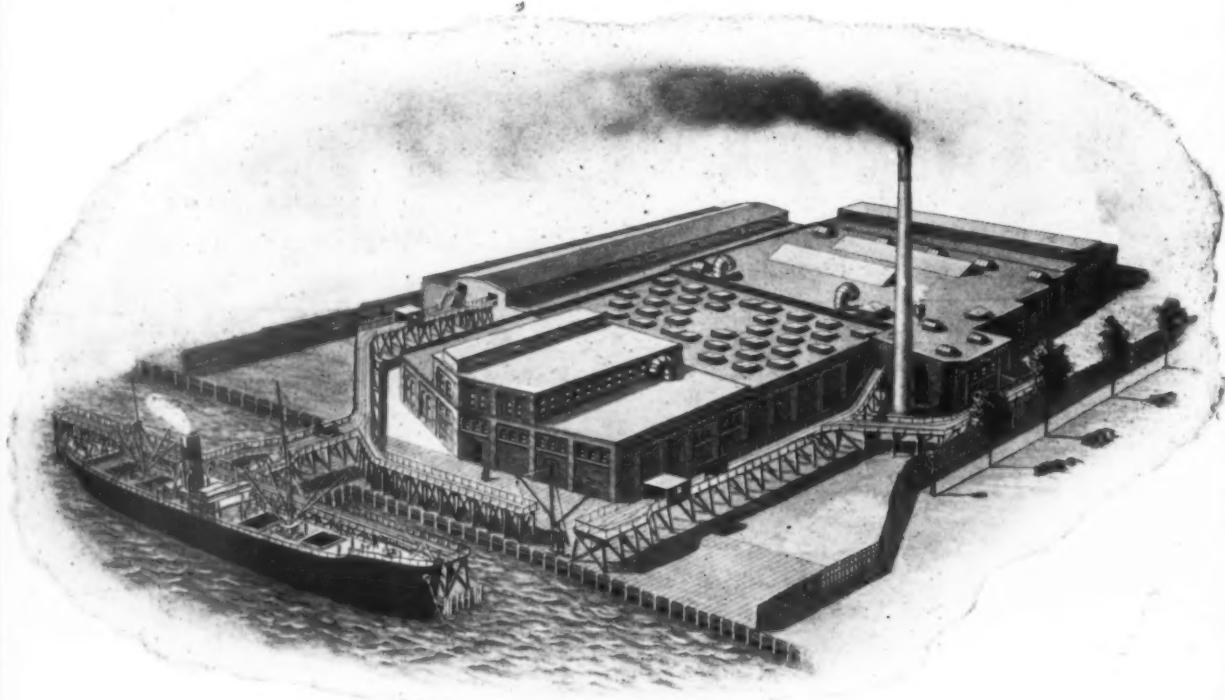
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Regular and Special work solicited.

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A BOOK for RUBBER PLANTERS
Price, Three Dollars

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THE DEVELOPMENT OF MANÁOS.

THERE were offered recently in London £250,000 debentures, being part of the total authorized £500,000, bearing interest at 6 per cent., at 97½, of the Manáos Improvements, Limited, which company was formed February 26, 1906, to take over a concession granted by the state of Amazonas for the construction of a drainage system and waterworks for the city of Manáos. Considerable progress is reported to have been made already in the construction of these services, the ultimate result of which is expected to contribute greatly to the development of this important rubber capital. The authorities are looking already to a population of 100,000 in the near future, which hope is heightened by the prospective construction of the Madeira-Mamoré railway.

SAWMILLS IN THE AMAZON RUBBER COUNTRY.

AN article on "Lumbering on the Amazon" in *Daily Consular and Trade Reports* is illustrated with a view of what is described as a successful sawmill in the Iquitos region of Peru. Probably no region of equal extent has larger timber resources than the Amazon watershed, and it is safe to say that none has fewer sawmills. An illustration of the situation is found in the fact all the "fine Pará" rubber exported from the Amazon is packed in "cases" made from lumber shipped from New York. In view of the decline in rubber prices as compared with two years ago, and the possibility that the lower price level may obtain for some years to come, involving a question of introducing new economies in the preparation and export of Amazon rubbers, the subject of introducing sawmills in that territory and utilization of native woods for rubber packing cases would seem to be one of much possible ultimate interest.

PROTECTING RUBBER IN VENEZUELA.

THE president of Venezuela signed a decree dated January 22, 1908, prohibiting the cutting down of rubber trees in the districts of Rio Negro and El Caura. Rubber must be extracted only by means of incisions. Balata trees may be cut down in certain seasons, provided two new trees are planted for each one destroyed, but the cutting of trees under 8 years is forbidden, unless fully developed.

"FICUS" RUBBER SPECIES IN AFRICA.

A RECENT issue of the *Notizblatt* of the Berlin botanic gardens (No. 42—March 11, 1908) is devoted largely to newly identified or little known rubber yielding species. Illustrations are given of three species of *Ficus* native to Africa. In addition to *Ficus Vogelii*, which has long been listed as a rubber producer, this publication refers to *F. rocco* and *F. triangularis*. Another plate illustrates three species of *Gymnosporia*, belonging to the natural order *Celastraceæ*—shrubs widely distributed and described as containing the latex of caoutchouc.

RUBBER SUCCESS IN THE WEST INDIES.

THE West Indian Agricultural Conference of 1908 was opened on January 14 at Bridgetown, Barbados, under the presidency of Sir Daniel Morris, K. C. M. G., imperial commissioner of agriculture for the West Indies, by his excellency the governor of Barbados, and attended by eighty representatives of the British colonies which form the field of the department of agriculture for the West Indies. Sir Daniel Morris in his presidential address referred to the encouraging progress which has been made in rubber culture in the West Indies. In Trinidad some 300,000 rubber trees are under culture on 33 estates, and considerable shipments of plantation rubber have been made, mostly of *Castilloa*. Eight or ten estates are now planting *Hevea* rubber. Details of yield of planted *Castilloa* in the island of St. Lucia were also given. Several of the delegates reviewed rubber planting in

their districts, it appearing that the planting of *Hevea* is in progress in several localities. An experimental rubber station has been established in British Guiana, and several species are being tested, while a number of plantations have been started. Mr. John H. Hart, F. L. S., drew attention to a new rubber producing plant in *Odontadenia speciosa*, a native of Trinidad, belonging to the natural order *Apocynaceæ*.

THE SMALL BOYS' DELIGHT.

THE "sling shot rubber" has long since ceased to be a novelty, as the neighbors of every real live boy have had reason at some time or another to testify, but it has not always been clear whence these disturbing toys come. They certainly are not listed by any of the rubber manufacturers, but one is illustrated in a recent list of an important jobbing house. That the article referred to is designed for "business" is indicated by the description given—"Loop cloth inserted ends and cloth center"—indicating that it may be counted on not to wear out before the boyish owner has had time to tire of it.

A LOT OF OLD RUBBER "GADDERED."

A RUBBER firm in Montreal received lately a communication from Nova Scotia which indicates a more lively interest in the waste rubber trade in that province than some people might have supposed. The letter ran:

"DEAR SIR:—I have wrote last ear to find out about old Rubber and I have gadder a lot this ear so my intention is to ship it lots on if you by it and if the Price is satisfactory I got your Price last ear but this ear I dont no how much it worth I hope you will let me no it Please send me one of your shiping Card if you have them I remain your very Truly

"PRUDENT J. MCDONALD."

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Cold bent steel hanger and bracket.

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SIZE 19 x 31 INCHES

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SUBSTITUTES, free from Acid
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SUPERINTENDENT.—Thoroughly competent tire and mechanical goods superintendent desires change, can produce actual results. Address RESULTS, care of THE INDIA RUBBER WORLD. (109)

YOUNG CHEMIST, Technical Graduate, with experience in mechanical goods, desires position. Address CHEMIST, care of THE INDIA RUBBER WORLD. (110)

ACCOUNT WANTED by two young, educated, financially responsible men to represent reliable manufacturer of mechanical, hard rubber and vehicle tire goods on strictly commission basis. Established and have large trade. Replies confidential. No objection to other agents. Address E. L., Box 77, 125 Michigan avenue, Chicago, Ill. (1079)

POSITION WANTED by a practical man as assistant superintendent or mill room foreman; can furnish best of compounds and make own Shoddy. Would like to correspond with some up-to-date rubber company. Address Y. O. U., care of THE INDIA RUBBER WORLD. (1080)

The developer of one of the largest and most successful rubber wire and cable factories of the day is now at leisure and open to engagement. A wire and cable department in your factory, or a new plant can be made very profitable. The present is an excellent time to equip, as prices are low, deliveries prompt and labor plentiful. Address Rubber Wire Engineer, care of "The India Rubber World." (1085)

SITUATIONS OPEN

PRESSMAN.—An old established company with new factory in California requires thoroughly competent and reliable man to take charge of small press work. Address W. F., care of THE INDIA RUBBER WORLD. (102)

WANTED.—Young man with experience selling Mechanical Rubber Goods. Prefer one who has been working New York and New England territory. Address HUNTER, care of THE INDIA RUBBER WORLD. (103)

FOREMAN.—Required for England foreman for Reclaiming Works. Answers will be treated in strictest confidence. Address J. C. T., care of THE INDIA RUBBER WORLD. (104)

WANTED by a Rubber Manufacturing Firm in Northern Europe, a foreman for the rubber shoe department. Only absolutely first-class men, able to furnish references proving their previous experience in the shoe manufacturing line, need apply. Address S. G. 1900, care of Rudolf Mosse, Berlin, S. W., Germany. (105)

SUPERINTENDENT WANTED.—Norwegian with experience in manufacturing rubber shoes wanted for Norway factory. Address NORWAY, care of THE INDIA RUBBER WORLD. (106)

WANTED.—A Sales Manager for a large rubber reclaiming factory. Must have experience and knowledge of the business and acquaintance with the rubber trade. A rare opportunity for a first-class man. Address B., Room 611, No. 290 Broadway, New York. (116)

WANTED.—An experienced Jar Ring Salesman capable of handling large trade. Address PENNSYLVANIA RUBBER CO., JEANNETTE, PA. (117)

WANTED.—Crude Rubber Salesman for large Eastern concern. Write stating full particulars, giving age, salary expected, etc., or no attention paid. Address R. M., care of THE INDIA RUBBER WORLD. (118)

WANTED.—Finishing and shipping foreman in rubber factory manufacturing clothing and druggists' sundries. Must have executive ability and be familiar with grommeting, buttoning and inspecting operations. State salary, experience and references. (References will not be referred to without permission from the applicant.) Address D. O. M., care of THE INDIA RUBBER WORLD. (119)

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Five (5) Combination and Friction Calenders. Twenty-five (25) Grinders of all sizes. Five (5) Washers and Crackers. Twenty (20) Vulcanizers of all sizes. Twelve (12) Hydraulic and Hand Presses, some with Platens 40" square. Three (3) Hydraulic Presses 4-openings, Platens 40" square and 16" rams. Several Tubing Machines of different sizes. One (1) Reiner. Three (3) large Rubber Mill Engines. Several Fans. A large lot of shafting of all sizes. One set of a dozen different designs of Mat Moulds. A large lot of Rubber Sole Moulds. A lot of miscellaneous Rubber Mill Machinery that will be sold cheap for Cash. For all further particulars write to PHILIP McGRORY, TRENTON, N. J.

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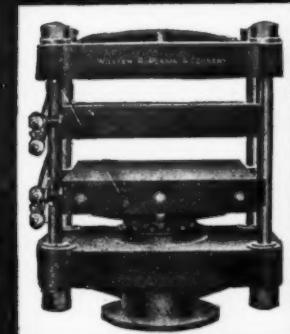
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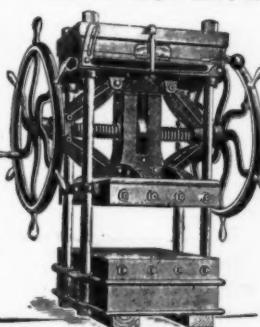
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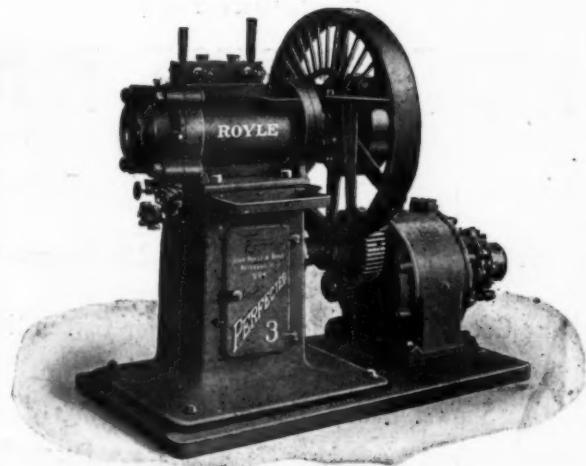
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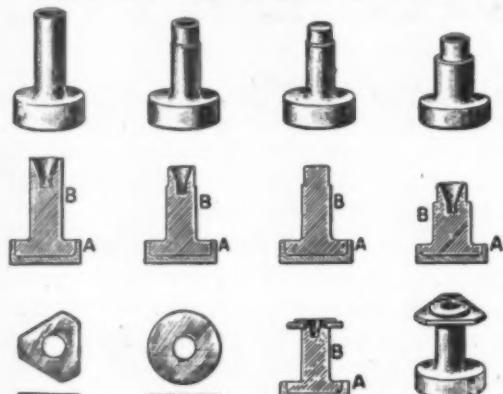
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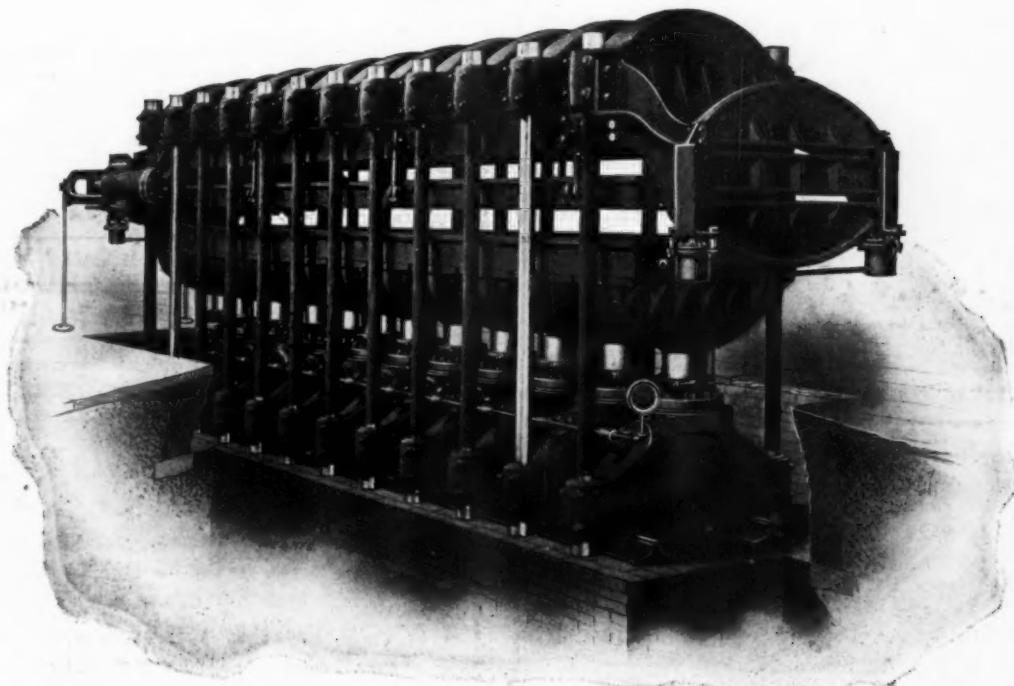
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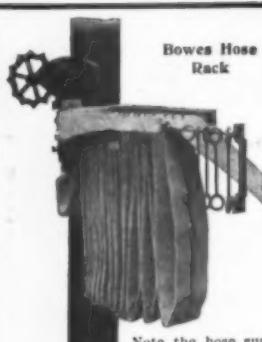
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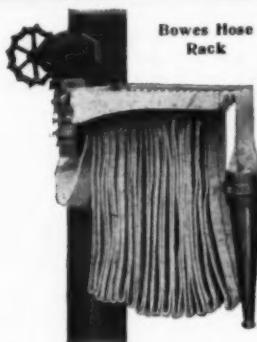


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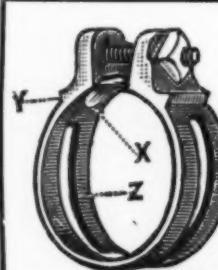


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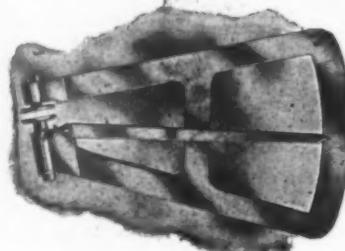
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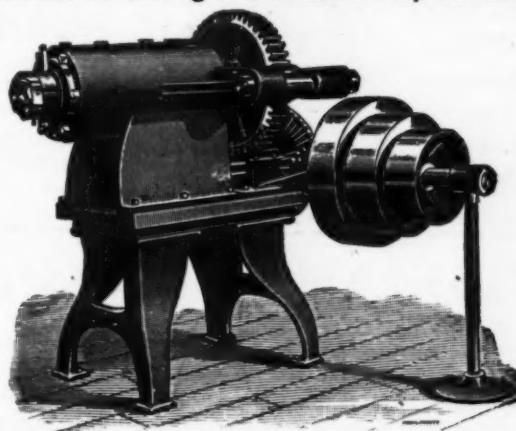
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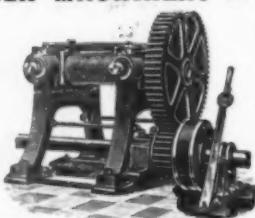
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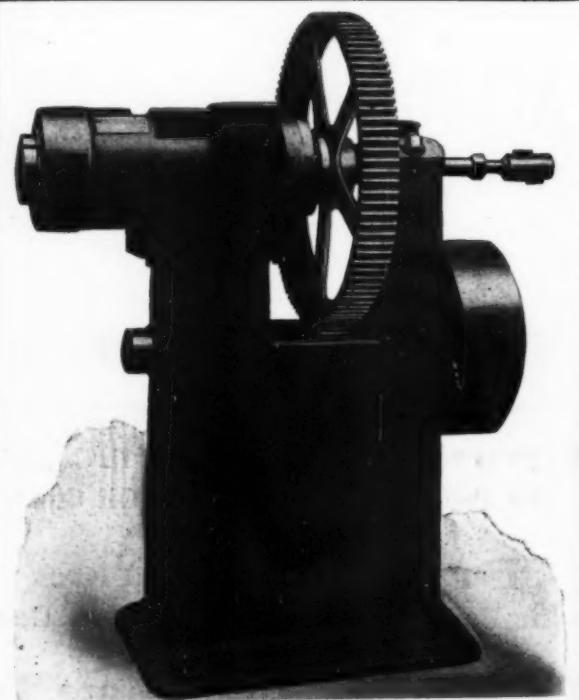
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Gutta Percha and Balata

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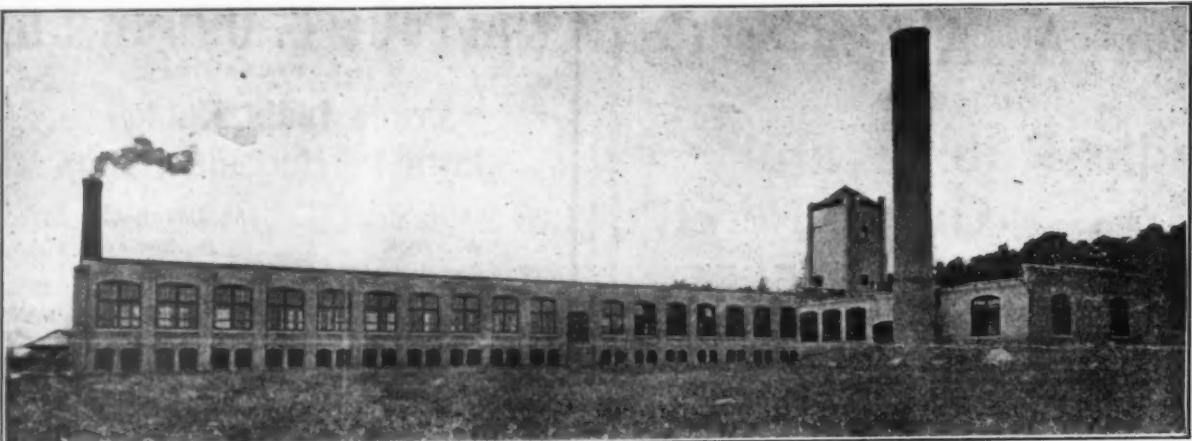
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SAMPLES AND PRICES ON APPLICATION.

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FOR SALE—Ideal Building and Location for the Rubber Manufacturing Business

Situated at **HUDSON, MASS.**

The main structure is brick, 200 x 60 ft., one story and basement. The walls are 24 ins. thick at the pilasters, 16 ins. between, and rest on a concrete foundation. The windows are 8 ft. 6 ins. x 7 ft. 6 ins., fitted with adjustable transoms, and are 2 ft. 9 ins. apart. The posts throughout the building are set on thirds and all upright timbers are 12 ins. square and have iron caps. The other timbers are equally heavy and are hung by steel straps. This heavy mill construction will more than accommodate any business it may be used for. It is 15 ft. 4 ins. in the clear between floors and timbers at the walls. There are large double doors at each end and at one side, pit for elevator, overhead steam piping, sprinkler fire protection, and fireproof doors. The floors are 3 in. plank covered with 1 in. maple. The stair and tank tower is 14 ft. x 14 ft., three stories high, arranged at the top for the sprinkler tank. The basement is complete with the exception of flooring, and there is a heavy bulkhead at each end. All floors are size of building, without partitions, and are as conveniently arranged for general manufacturing business, as experience and judgment could design and construct. The floor for the second story is in place and the plans took into consideration the addition of two or more stories without any additional under construction. All the material used in construction is of the best, the work was done by day labor and is much better than the general run of factory construction. The building has been finished about a year, but has never been occupied.

The Boiler Room is brick, 46 ft. x 43 ft., finished in high single story and convenient room, with an unusual amount of light. In the boiler house is a new Dillon Tubular Horizontal boiler, all set, with 92 3-in. tubes, 18 ft. long. The chimney is brick, round, 60 ft. high, and 10 ft. diameter at the base.

The Engine Room is 46 ft. x 30 ft., finished into a very high posted room and large basement, lighted from both sides and one end. The foundation for engine is of concrete and is all ready to receive the engine.

The property is situated at Hudson, Mass., on Cherry street, adjoining the electric light and power plant of the town of Hudson. The railroad facilities are superb; it is within 300 ft. of the Central Massachusetts branch of the Southern division of the Boston and Maine R. R., and has a frontage of 1,500 ft. on the Marlboro branch of the Fitchburg division, and is also on the spur track of the electric power and light plant. It is within 10 minutes' walk of Wood square, the business center of Hudson, and the R. R. station, freight yard and express offices are within 5 minutes' walk. It has a frontage on the Assabet river of over 1,700 ft. The trunk line of the electric railroad passes the premises on Main street, connecting with Boston, Marlboro, Fitchburg, Worcester, and the surrounding towns.

Hudson has a population of about 7,000 and is growing rapidly both in population and as a manufacturing center. The supply of skilled and unskilled labor has always been ample and is of a very desirable quality.

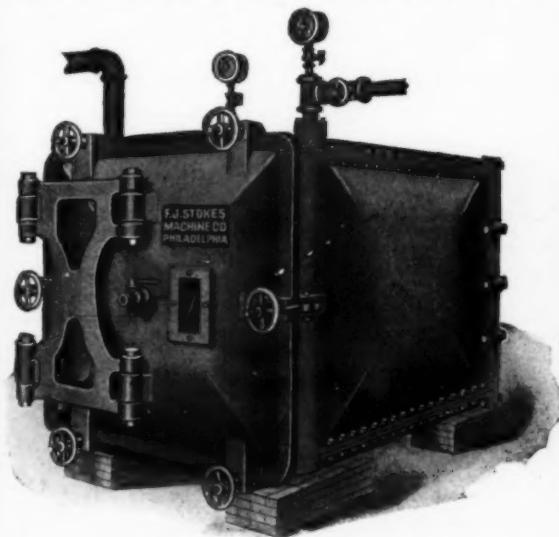
Among the many industries are the Lapoint Machine Tool Co., recently established in a new brick plant; the Universal Machine Co.; the Hudson Worsted Co. (running night and day); several large shoe factories, and numerous other live manufacturing concerns. The town affairs are progressively administered and Hudson has its own complete water and sewerage systems, its own electric light and power plant, etc. The water rates are very low; for industrial purposes it costs but 5 cents per thousand gallons. Electric power is furnished at cost and the average cost has not exceeded \$28 or \$30 a year horsepower per day of 10 hours, 300 days in a year.

The steam and electric car service is perfect, both for passenger and freight. There are 21 passenger trains daily each way between Boston and Hudson. Freight is billed as of Boston yard.

The land is in three lots and has a total area of 12 1/2 acres. The lot with the buildings on has an area of 7 1/2 acres and the other two about 5 1/2 acres. In these two lots there are about 84 house lots, and lots in this central location have sold for \$325 each. The banking facilities of the town are exceptionally good. For an interview and the price of this property, address

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Charlestown, Massachusetts.

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Over 1600 Apparatus in Successful Operation.

The Passburg (Patent) "VACUUM DRYING APPARATUS" is no experiment.

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300 chambers in daily operation drying rubber and rubber compounds.

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When investing in the Peru-Para Rubber Co.—for mature, productive trees that can be seen and counted—instead of only a chance to share in profits in the remote future, as in the case of rubber planting propositions.

Why Don't You Write for Proofs?

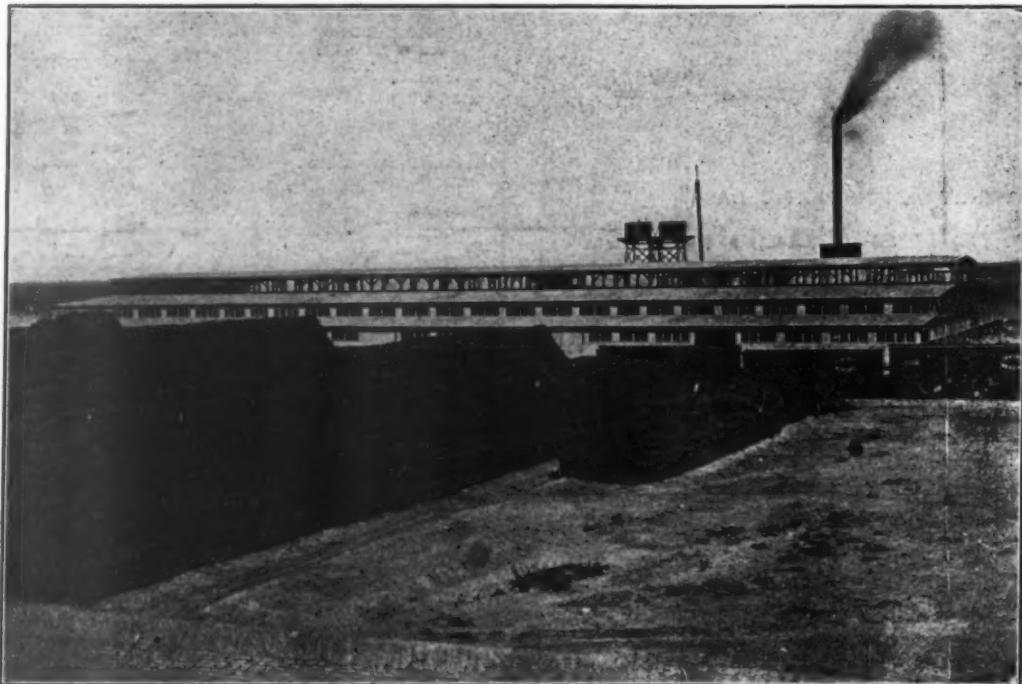
The company named has large and valuable land grants from the Peruvian government, heavily stocked with "Para" rubber, and is officered and managed by substantial and experienced men of affairs, details of which are sent for the asking.

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Mention *The India Rubber World* when you write.

"The Sporting Goods Dealer," of St. Louis, says that the Rubber Trade Directory contains "a lot of information which should be valuable to dealers in sporting goods in many ways."

PRICE, \$3 PER COPY

"Boot and Shoe Recorder," of Boston, says the Directory "will undoubtedly be found useful to a very large number of people in the trade. . . . This book seems to be very carefully compiled and may be considered authoritative, and we recommend it to our readers."

From "The Spatula," a Drug Trade Journal of Boston

Rubber Directory.

RUBBER TRADE DIRECTORY FOR 1908. Including India-rubber Trade Marks, Trade Names and Brands. Octavo; cloth. Published at the offices of the India Rubber World, New York.

This, we believe, is the first complete directory of the rubber goods industry that has yet been published. It will be found of great value to any one wishing to reach by letter or circular the thousands of firms who are connected with the production and sale of rubber goods of various kinds.

"Carriage Monthly," of Philadelphia, says that the book is "classified by States, and gives a list of the trade organizations in each, together with rubber statistics and other information that makes the work of considerable value as a trade reference book."

PRICE, \$3 PER COPY

"The Druggists' Circular," of New York, says: "Trade directories are very useful publications and this latest addition to the ranks will be welcomed by drug store keepers, all of whom have at some time been at a loss to locate the manufacturer or distributor of some desired rubber utensil or appliance."



**RUBBER TRADE
DIRECTORY
for 1908**

Published at the Offices of
THE INDIA RUBBER WORLD
395 BROADWAY
NEW YORK

EXTRACTS FROM LETTERS

THE INDIA RUBBER WORLD PUBLISHING CO.—Gentlemen: We have received your communication and copy of Rubber Trade Directory. We see so much value in the book that we are enclosing our check of \$3 to pay for it. We wish to compliment you upon the work, which is certainly of value to all interested in manufacturing or selling of rubber.

THE INDIA RUBBER PUBLISHING CO.—Gentlemen: We have received a copy of THE INDIA RUBBER WORLD Trade Directory for 1908. We wish to congratulate you upon the many excellent features which this book contains, and we believe that it is a publication which will be highly appreciated by the trade.

THE INDIA RUBBER PUBLISHING CO.—Gentlemen: We have received your favor of the 16th instant, and also, with the same mail, the Directory of which you advised us. We compliment you upon this work, which we consider a very fine book for any one interested in india-rubber. We have instructed our agent in New York to pay your bill.

THE INDIA RUBBER PUBLISHING CO.—Gentlemen: I notice this morning in Boston *Commercial Bulletin* that you have issued a Directory of the Rubber Trade in the United States. I think that this is something that I need in my business. If you will send me a copy I will send you a check for the price.

BUYERS' DIRECTORY OF THE RUBBER TRADE.

Classified List of Manufacturers and Dealers in India-Rubber Goods and Rubber Manufacturers' Supplies.

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MECHANICAL RUBBER GOODS.

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Hose (Fire, Garden, Steam).
Mats and Matting.
Mould Work.
Packing.
Tubing.
Valves.
Washers.

Mechanical Goods Generally.

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Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Bowers Rubber Co., San Francisco, Cal.
Canadian Rubber Co., of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Chicago Rubber Wks., Chicago.
Cincinnati Rubber Mfg. Co., Cincinnati.
Cleveland Rubber Co., Cleveland, O.
Continental Caoutchouc & Guttapercha Co., Hanover, Germany.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
The Dermatine Co., London.
Dunlop Tire & Rubber Goods Co., Toronto.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Mfg. Co., New York.
Federal Rubber Co., Milwaukee, Wis.

Mechanical Goods—General—Continued.

B. F. Goodrich Co., Akron, O.
Canadian Rubber Co., of Montreal.
Acme Rubber Mfg. Co., Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.
Lake Shore Rubber Co., Erie, Pa.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., New York.
Morgan & Wright, Detroit, Mich.
National India-Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republie Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City, N. J.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Eureka Fire Hose Mfg. Co., New York.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.
Boston Belting Co., Boston-New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., Ltd.
New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.
Springfield Tire & Rubber Co., Springfield, Ohio.
Springfield Tire & Rubber Co., Spring-
field, Ohio.

Abrasive, Polishing Wheels and Blocks.

Boston Belting Co., Boston-New York.

Air Brake Hose.

Boston Belting Co., Boston-New York.

Air Brake Hose—Continued.

Boston Woven Hose & Rubber Co.
Gutta Percha & Rubber Mfg. Co., N. Y.
Hodgman Rubber Co., New York.
Gustave Kush, New York.
Revere Rubber Co., Boston-New York.
Voorhees Mfg. Co., Jersey City.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.
Belting (Canvas).
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Eureka Fire Hose Mfg. Co., New York.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., Lodi, N. J.
National India-Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

Billiard Cushions.

Boston Belting Co., Boston-New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., Ltd.
New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.

Blankets—Printers'—Continued.

B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Hodgman Rubber Co., New York.
Gustave Kush, New York.
Revere Rubber Co., Boston-New York.
Voorhees Mfg. Co., Jersey City.
Brushes.
Boston Woven Hose & Rubber Co.
C. J. Bailey & Co., Boston.
Springfield Tire & Rubber Co., Springfield, Ohio.
Buffers.
Boston Belting Co., Boston-New York.
Canadian Rubber Co., of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., Lodi, N. J.
National India-Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.
Card Cloths.
Canadian Rubber Co., of Montreal.
Mechanical Fabric Co., Providence, R. I.
Carriage Mats.
Continental Rubber Works, Erie, Pa.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

RUBBER BUYERS' DIRECTORY—Continued.

Carriage Mats.—Continued.

Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Cord (Pure Rubber).

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Davo Rubber Co., Providence, R. I.
Dayton Rubber Mfg. Co., Dayton, O.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
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Mattson Rubber Co., Lodi, N. J.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Deckle Straps.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
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Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Force Cups.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hodgman Rubber Co., New York.
Mattson Rubber Co., Lodi, N. J.
National India Rubber Co., Bristol, R. I.

Fruit Jar Rings.

Acme Rubber Mfg. Co., Trenton.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
R. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Fuller Balls.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago, Ill.

National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davo Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Bristol, R. I.
Peerless Rubber Mfg. Co., New York.
Tire Rubber Co., Andover, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Boston Belting Co., Boston—New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New Jersey Car Spring & Rubber Co.
Revere Rubber Co., Boston—New York.

Grain Drill Tubes.

Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Dayton Rubber Mfg. Co., Dayton, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
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New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Horse Shoe Pads.

Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Wire Wound.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Core.

Alderfer Crate Co., Sharon Center, O.
Hose Pipes, Nozzles, Couplings and

Fittings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Mfg. Co., New York.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Hose Linings.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City.

Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.

Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
New York Belting & Packing Co., N. Y.
Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

Cotton and Linen.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.

Gutta Percha & Rubber Mfg. Co., N. Y.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Mfg. Co., New York.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New Jersey Car Spring & Rubber Co.
Revere Rubber Co., Boston—New York.

Hose—Submarine.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose Bands, Straps & Menders.

Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
William Yerdon, Fort Plain, N. Y.

Lawn-Hose Supporters.

C. J. Bailey & Co., Boston.

Lawn Sprinklers.

W. D. Allen Mfg. Co., Chicago.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston—New York.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston—New York.

Mould Work.

(See Mechanical Rubber Goods.)

H. O. Canfield Co., Bridgeport, Ct.
Canton Rubber Co., Canton, O.
Davidson Rubber Co., Boston.
Davo Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
Hodgman Rubber Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Mattson Rubber Co., Lodi, N. J.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.

Oil Well Supplies.

Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.

Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.

Mattson Rubber Co., Lodi, N. J.
Morgan & Wright, Detroit, Mich.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston—New York.

Voorhees Rubber Mfg. Co., Jersey City.

Revere Rubber Co., Boston—Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Packing.

(See Mechanical Rubber Goods.)
B. & G. Rubber Co., Erie, Pa.
Jenkins Bros., New York.
Mattson Rubber Co., Lodi, N. J.
Rubertex Cloth & Paper Co., Logansport, Ind.

Paper Machine Rollers.

Boston Belting Co., Boston—New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
H. O. Canfield Co., Bridgeport, Ct.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)
Jenkins Bros., New York.
Mattson Rubber Co., Lodi, N. J.
Massachusetts Chemical Co., Walpole, Mass.

Rolls—Rubber Covered.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Sewing Machine Rubbers.

Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.

Mattson Rubber Co., Lodi, N. J.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.

New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston—New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.

RUBBER BUYERS' DIRECTORY—Continued.

Stair Treads—Continued.

National India Rubber Co., Bristol, N. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston—New York.

Tiling.

Canadian Rubber Co., of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring and Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Mattson Rubber Co., Lodi, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Tyre Rubber Co., Andover, Mass.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston—New York.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Western Rubber Works, Goshen, Ind.

Valves.

(See Mechanical Rubber Goods.)
Jenkins Bros., New York—Chicago.
Mattson Rubber Co., Lodi, N. J.

Vulcanite Emery Wheels.

Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Atomizers.

Bandages.

Bulbs.

Nipples.

Syringes.

Water Bottles.

Druggists' Sundries, Generally.

American Hard Rubber Co., New York
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Faultless Rubber Co., Akron, O.
Hodgman Rubber Co., New York—Boston.
L. & M. Rubber Works, Canton, Ohio.
Lucerne Rubber Co., Trenton, N. J.
National India Rubber Co., Bristol, R. I.
Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Star Rubber Co., Akron, O.
Tyre Rubber Co., Andover, Mass.

Balls, Dolls and Toys.

New York Rubber Co., New York.

Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York—Boston.
Tyre Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.

Finger Cots.

Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Mfg. Co., Akron, O.
Huron Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
L. & M. Rubber Works, Carrollton, O.
The Rubber Products Co., Barberton, O.
Tyre Rubber Co., Andover, Mass.

Gloves.

Canadian Rubber Co. of Montreal.
Canton Rubber Co., Canton, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
L. & M. Rubber Works, Carrollton, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barberton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
H. O. Candeil Co., Bridgeport, Ct.
Davol Rubber Co., Providence, R. I.
Lucerne Rubber Co., Trenton, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyre Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyre Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
L. & M. Rubber Works, Carrollton, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barberton, O.
Tyre Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Shower Bath Sprinklers.

L. & M. Rubber Works, Carrollton, O.
A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Faultless Rubber Co., Ashland, O.
N. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.

Davol Rubber Co., Providence, R. I.

B. F. Goodrich Co., Akron, O.

Hodgman Rubber Co., New York—Boston.

Seamless Rubber Co., New Haven, Ct.

Tyre Rubber Co., Andover, Mass.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.

Erie Rubber Works, Erie, Pa.

Hodgman Rubber Co., New York.

Manhattan Rubber Mfg. Co., New York.

National India Rubber Co., Bristol, R. I.

New York Belting & Packing Co., N. Y.

Yer Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.

Davidson Rubber Co., Boston.

Davol Rubber Co., Providence, R. I.

B. F. Goodrich Co., Akron, O.

National India Rubber Co., Bristol, R. I.

Tyre Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.

Davidson Rubber Co., Boston.

Faultless Rubber Co., Akron, O.

B. F. Goodrich Co., Akron, O.

The Rubber Products Co., Barberton, O.

Tyre Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.

Davidson Rubber Co., Boston.

Faultless Rubber Co., Akron, O.

B. F. Goodrich Co., Akron, O.

The Rubber Products Co., Barberton, O.

Tyre Rubber Co., Andover, Mass.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Massachusetts Chemical Co., Walpole, Mass.

Plymouth Rubber Co., Stoughton, Mass.

Springfield Tire & Rubber Co., Springfield, Ohio.

Western Rubber Works, Goethen, Ind.

Tennis Shoes.

American Rubber Co., Boston.

Boston Rubber Shoe Co., Boston.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

National India Rubber Co., Providence.

United States Rubber Co., New York.

Wales-Goodyear Rubber Co., Boston.

Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Massachusetts Chemical Co., Walpole, Mass.

Plymouth Rubber Co., Stoughton, Mass.

Springfield Tire & Rubber Co., Springfield, Ohio.

Western Rubber Works, Goethen, Ind.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woonsocket Rubber Co., Providence.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Wales-Goodyear Rubber Co., Boston.

Woolson Woven Hose & Rubber Co.

Canadian Rubber Co. of Montreal.

Continental Cautchouc & Guttapercha Co., Hanover.

The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

RUBBER BUYERS' DIRECTORY—Continued.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Lamere Rubber Co., Trenton, N. J.
Joseph Stoker Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.

Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

Acme Rubber Mfg. Co., Trenton, N. J.
The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.

National India Rubber Co., Providence.

Splicing Compounds.

Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.

SPORTING GOODS.

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.

B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barberston, O.

Submarine Outfits.

Hodgman Rubber Co., New York.
A. Schrader's Sons, Inc., New York.

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Henry H. Shep & Co., Philadelphia.

Boxes (Paper).

A. Petersen Co., Akron, O.

Brass Fittings.

A. Schrader's Son, Inc., New York.

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Boston Belting Co., Boston.

Canadian Rubber Co. of Montreal.

B. F. Goodrich Co., Akron, O.

Manhattan Rubber Mfg. Co., New York.

Massachusetts Chemical Co., Walpole, Mass.

N. J. Car Spring & Rubber Co., Jersey City, N. J.

New York Belting & Packing Co., N. Y.

Chemists.

Maywald, F. J., New York.

Stephen P. Sharples, Boston, Mass.

Consulting Engineers.

Akron Rubber Engineering Co., Akron, O.
M. P. Fillingham, New York.

Contracting Engineer.

August Johnston, New York.

Planting.

Peru-Para Plan. Co., Chicago.

Tuna River Plan. Co., New York.

Rubber Journals.

Gummi-Zeitung, Dresden, Germany.
L'Agriculture des Pays Chauds, France.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

Tapping Tools.

G. Van den Kerckhove, Brussels, Belgium.

Valves for Air Goods.

A. Schrader's Son, Inc., New York.

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A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Slitters.

Cloth Dryers.

Gearing.

Shafting.

Wrapping Machines.

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Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Stretchers.

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Farrel Foundry & Mach. Co., Ansonia, Conn.
Heggson & Pettis Mfg. Co., New Haven.

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John R. Thropp & Sons Co., Trenton, N. J.

Braiders.

New England Butt Co., Providence, R. I.

Calenders.

Birmingham Iron Foundry, Derby, Conn.
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Textile-Finishing Machinery Co., Providence, R. I.

Castings.

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Chucks (Lathe).

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Churns.

American Tool & Machine Co., Boston.

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Boston Die Co., Boston.

Heggson & Pettis Mfg. Co., New Haven.

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American Tool & Machine Co., Boston.

Drying Machines.

David Bridge & Co., Castleton, Manchester, Eng.

Joseph P. Devine, Buffalo, N. Y.

Birmingham Iron Foundry, Derby, Conn.

F. J. Stokes Machine Co., Phila., Pa.
Textile-Finishing Machinery Co., Providence, R. I.

Embossing Calenders.

Textile-Finishing Machinery Co., Providence, R. I.

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John R. Thropp & Sons Co., Trenton, N. J.

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Heggson & Pettis Mfg. Co., New Haven.

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Farrel Foundry & Mach. Co., Ansonia, Conn.

William R. Thropp, Trenton, N. J.

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Farrel Foundry & Mach. Co., Ansonia, Conn.

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Birmingham Iron Foundry, Derby, Conn.

New England Butt Co., Providence, R. I.

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Lathes—Jar Ring.

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Heggson & Pettis Mfg. Co., New Haven.

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Heggson & Pettis Mfg. Co., New Haven.
Williams Foundry & Machine Co., Akron, Ohio.

Pillow Blocks.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Presses (for Rubber Work).

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Birmingham Iron Foundry, Derby, Conn.

Boomer & Boschert Press Co., Syracuse, N. Y.

Edred W. Clark, Hartford, Conn.

Farrel Foundry & Mach. Co., Ansonia, Conn.

William R. Perrin & Co., Chicago Ill.

William R. Thropp, Trenton, N. J.

Williams Foundry & Machine Co., Akron, Ohio.

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Boomer & Boschert Press Co., Syracuse.

Farrel Foundry & Mach. Co., Ansonia, Conn.

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Heggson & Pettis Mfg. Co., New Haven.

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New England Butt Co., Providence, R. I.

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American Tool & Machine Co., Boston.

Birmingham Iron Foundry, Derby, Conn.

New England Butt Co., Providence, R. I.

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Mason Regulator Co., Boston.

Osgood Sayen, Philadelphia, Pa.

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Heggson & Pettis Mfg. Co., New Haven.

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New England Butt Co., Providence, R. I.

Strip Cutters.

New England Butt Co., Providence, R. I.

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New England Butt Co., Providence, R. I.

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FACTORY SUPPLIES.

Aluminum Flake.

Aluminum Flake Co., Akron, O.

Antimony, Sulphurets of.

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Atlas Chemical Co., Newtonville, Mass.

Avery Chemical Co., Boston.

Golden and Crimson, Joseph Carter, New York.

Golden and Crimson, Wm. H. Scheel, New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS—Continued.

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Artificial Rubber.

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George A. Alden & Co., Boston.

Barytes.

Avery Chemical Co., Boston.

Benzol.

Avery Chemical Co., Boston.
Barrett Mfg. Co., Philadelphia.

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Black Hypo.

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Tyke & King, London, England.

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Chemicals.

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Oxford Tripoli Co., New York.

George W. Speight, New York.

S. P. Wetherill Co., Philadelphia, Pa.

Colors.

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Raven Mining Co., Chicago.

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Lamphblack.

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Lead—Blue.

Lead—Sublimed White.

Picher Lead Co., Chicago, Ill.

Lithopone.

Avery Chemical Co., Boston.

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Geo. A. Alden & Co., Boston.

Paris White and Whiting.

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Gilbert-Besow Co., Cleveland, O.

Housatonic Rubber Works, Bridgeport.

Manufactured Rubber Co., Phila., Pa.

Manufacturers' Co., Phila., Pa.

New Jersey Rubber Co., Lambertville, N. J.

Pequannock Rubber Co., Butler, N. J.

Philadelphia Rubber Works, Philadelphia.

Ricknay Rubber Mfg. Co., South Framingham, Mass.

Rothschild, H., New York.

Stockton Rubber Co., Stockton, N. J.

Joe. Stokes Rubber Co., Trenton, N. J.

S. & L. Rubber Co., Chester, Pa.

U. S. Rubber Reclaiming Works, N. Y.

Westmoreland Rubber Mfg. Co., Grapeville, Pa.

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Massachusetts Chemical Co., Walpole, Mass.

Rubber Makers' White.

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Schwab & Co., Philadelphia.

Trenton Scrap Rubber Supply Co., Trenton, N. J.

United States Waste Rubber Co., Brockton, Mass.

M. J. Wolpert, Odessa, Russia.

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Substitute.

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Sulphur.

Battelle & Renwick, New York.

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Whiting.

H. F. Taintor Mfg. Co., New York.

Zinc, Oxide of.

New Jersey Zinc Co., New York.

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National India Rubber Co., Bristol, R. I.

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National India Rubber Co., Bristol, R. I.

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Boston Belting Co., Boston-New York.

Boston Woven Hose & Rubber Co., Cambridge, Mass.

The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.

Manhattan Rubber Mfg. Co., New York.

Massachusetts Chemical Co., Walpole, Mass.

National India Rubber Co., Bristol, R. I.

Revere Rubber Co., Boston, Mass.

Repair Stock.

Manhattan Rubber Mfg. Co., Passaic, N. J.

Trenton Rubber Mfg. Co., Trenton, N. J.

Rims, Wheel.

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Tires.

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Automobile and Carriage.

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Lane & Co., J. H., New York.

Tire Repairing.

Voorhees Rubber Mfg. Co., Jersey City, N. J.

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